SPELLGUARD
Version 2.0

MANUAL REVISION 1.C

Licensed for use on the Osborne 1

OSBORNE COMPUTER CORPORATION
Hayward, California

Configuring Diskettes for Use

Before you begin to use your software purchase, you should perform the following steps:

For single density users:

1. Make a copy of the diskettes we provide by using the COPY program supplied with your Osborne 1. Be sure to label the new diskettes you create. Store the originals in a safe place.

2. Use SYSGEN, as described in the Osborne 1 User Guide, to place a copy of CP/M on the "system tracks" of the new diskettes you created in step 1. To do so, you'd put your CP/M System diskette in drive A and the new diskette in drive B.

3. While you've got the CP/M System diskette in drive A, use the SETUP program to configure the CP/M you just placed on your new diskette for the printer you have, and for the necessary options for the package.

    For this program, the settings to use are as follows:

PRINTER:	your choice, as appropriate
BAUD RATE:	your choice, as appropriate
AUTO SCROLL:	ON
SCREEN SIZE:	128
ARROW KEYS:	CP/M
FUNCTION KEYS:	your choice, as appropriate

    You MUST perform this step in order for your new program to function correctly.

4. Your new program is ready to use. Be sure to read the entire user manual provided to ensure that you are fully aware of the features and functions of the program.

For double density users:

1. Format a blank, double density diskette by using the COPY program supplied with your Osborne 1. Place this diskette in drive B.

2. Insert your CP/M System diskette in drive A, and invoke PIP by typing its name. Place the diskette you received with this package in drive A when the asterisk appears and type:

    B:=A:*.*<cr>

    Insert the next diskette into the A drive when the asterisk reappears, and type the above instruction again.

Some Basic Information on How to Use Your Computer

1. **The cursor:** The cursor is a small, bright, horizontal line on the screen which indicates where the information you type will appear.

2. **Corrections:** If you notice a mistake in what you have typed, you can correct it by using the backspace arrow (←) at the right of your keyboard. Each time you press this arrow, it will move the cursor back one space. Reposition the cursor under the letter or number you want to replace and type over it. It will replace the old entry with the new one.

3. **Some special characters** Pressing the key labelled RETURN is indicated in the displays in this text as <cr>, <RETURN>, or "return." Control characters (such as ^C) are produced by holding down the control key (labelled "CTRL" and located at the left of your keyboard) while pressing the appropriate letter key.

ADDENDUM FOR THE OSBORNE I

Special Note to *SPELLGUARD* Users with Limited Disk Capacity, as on the Osborne I

SORCIM has developed a special configuration for systems with limited diskette storage space (less than 110k bytes per diskette); two methods for using *SPELLGUARD* under such conditions are described below.

Recommended Method 1:

The first diskette in the *SPELLGUARD* package (disk 1) is sufficient to run *SPELLGUARD*. Assuming that the diskette with the word processing program is in drive A, and that the diskette with the text file is in drive B, one need only exit from the word processor (press **X** to exit from WordStar), remove the word processing diskette, replace it with the *SPELLGUARD* disk 1, press ˆ**C** (hold down the key labelled CTRL while you press C) and type:

   A>SP B:<filename> <cr>

SPELLGUARD will begin proofreading the text file using the 10,000 word dictionary stored on the *SPELLGUARD* diskette. There is space on the diskette for approximately 5000 more words to be added to the dictionary.

The files MAINTAIN.COM and LARGE.DIC can be found on the second diskette.

Recommended Method 2:

The 20,000 word *SPELLGUARD* dictionary (LARGE.DIC) can be used if the text files occupy less than 40K bytes of diskette space (about 15 pages). To use this method, *SPELLGUARD* should be prepared using the following steps:

(1) Prepare a blank diskette and copy SP.COM and SP.OVL from the first *SPELLGUARD* diskette onto it. Start *SPELLGUARD* by typing **SP** and change the default dictionary to A:LARGE.DIC in the Default-Table (see Chapter 3.1 in the *SPELLGUARD* manual). Use this as the text file diskette; place it in drive B and put the word processing diskette in drive A.

(2) Prepare a blank diskette and copy LARGE.DIC from the second *SPELLGUARD* diskette onto it. Don't forget to "SYSGEN" this diskette.

(3) When ready to proofread, press **X**, remove the word processing diskette from Drive "A", replace with the dictionary diskette (step 2 above), press ˆ**C**, and type:

   A>B: <cr>
   B>SP (filename) <cr>

SPELLGUARD will begin proofreading the text file using the 20,000 word *SPELLGUARD* dictionary. There is space on the diskette for approximately 8000 more words to be added to the dictionary.

TABLE OF CONTENTS

CHAPTER 1. GETTING TO KNOW *SPELLGUARD*

Summary of Chapter: This Chapter is designed for the new user or prospective *SPELL-GUARD* purchaser. It describes basic concepts and procedures necessary to use *SPELL-GUARD*. Experienced users should occasionally read over this chapter to be sure they are getting the most possible benefit from the program.

Reading The Manual

New users should read all of Chapter 1 and Chapter 2 before first using the program. Chapter 1.2 and Chapter 2 have step-by-step instructions for new users to follow.

Other sections of the manual will become more understandable after some experience is gained using *SPELLGUARD* to proofread a document. These sections (Chapters 3 and 4 especially) contain information about more sophisticated use of *SPELLGUARD*, and can provide valuable information to the user who wants to do more than basic proofreading.

1.1 Overview of *SPELLGUARD* System

Purpose of This Section: This section provides an introduction to *SPELLGUARD* and is a good starting point for new users. All of the ideas presented in this section, though, may not become entirely clear until the user has had experience with the program. For that reason, it is suggested that the user read the first three pages of this section, run the program, and then reread this section.

What is *SPELLGUARD*?

SPELLGUARD is a package of computer programs that helps the user to eliminate spelling and typographical errors in written materials prepared with a word processor or text editor. *SPELLGUARD* is not a word processor; it is a separate program used in conjunction with a word processor to find potential spelling and typographical errors.

How Does *SPELLGUARD* Work?

SPELLGUARD finds spelling mistakes and typographical errors by comparing every word in the user's document with the words in one of *SPELLGUARD*'s dictionaries. Words not found in the dictionary are mismatches and possible errors.

These mismatched words are presented to the user one at a time. For each word, the user has three choices:

- If a word is misspelled, the user can have the program mark the word with a special character (e.g., @) every time it appears in the user's document.

- If the word is spelled correctly, the user can have the program add the word to the dictionary. This is the easiest way for the user to automatically expand the dictionary with commonly used words.

- If the word is spelled correctly but the user does not want to add it to the dictionary, the user can choose to have the program ignore the word.

Initially, the *SPELLGUARD* dictionary has approximately 10,000 of the most frequently used words in the English language, but this dictionary can be expanded. The maximum dictionary size is limited only by the amount of disk space available.

When proofreading is completed, the user ends the *SPELLGUARD* program and runs the word processor to correct words which have been marked as incorrect. The word processor's "FIND" command can be used to locate the words which are marked by the special marking character. The special marking character appears as the last character of the incorrect word (the misspelled word DAER would be shown as DAE@ in the text file after *SPELLGUARD* had marked it). The user also makes whatever other changes are required to fix the error.

Short Example of Proofreading a Document with *SPELLGUARD*

STEP 1: The document is typed with the user's word processor. For this example, we will use the document stored in the file LETTER.TXT.

STEP 2: The document is proofread by *SPELLGUARD* as follows:

Step 2.1 The user places disk 1 in drive A, disk 2 in drive B, presses the RESET button and presses RETURN. When the Master Menu appears, the user asks SPELL-GUARD to proofread the file B:LETTER.TXT.

The program may also be started from the CP/M A prompt by typing:

A>**SP B:LETTER.TXT** \<cr\>

Step 2.2: *SPELLGUARD* automatically finds the words in the document that are not in the dictionary (the mismatched words) and presents them one by one to the user. The user tells *SPELLGUARD* whether each mismatched word is correct, incorrect, or is to be ignored.

Step 2.3: When all words have been reviewed, *SPELLGUARD* automatically adds words reviewed as correct to the dictionary and marks incorrect words with the special marking character (e.g., "@").

Step 2.4: When all proofreading has been completed, the user ends the *SPELLGUARD* program.

STEP 3: The user runs the word processor program and, using the FIND command, finds and corrects the incorrect words.

STEP 4: For long and/or important documents, *SPELLGUARD* is run one more time to be sure no errors were made during the corrections.

A sample computer session which illustrates steps 2.1 and 2.2 is shown on the next page. Chapter 2.3 describes the proofreading procedure more completely.

SPELLGUARD Example

The user types:

A> **SP B:LETTER.TXT** <RETURN>

```
                        Spellguard (tm)
                        Version 2.0
                        CPU: 8080
                        S/N- 00002

                        Copyright 1982
                        SORCIM CORP.
                        Santa Clara, CA.



-- Press any key to start →
```

------------------------------ new screen ------------------------------

```
BEGIN PROOFING

          Dictionary File: SP.DIC                 10,000 words

          Dictionary File "SP.DIC"          Text File "B:LETTER.TXT"

     # Words      # Words      % Words       # Words      % Proofing
      Read         Unique       Unique        Mismatch      Done
   ------------  -----------  -----------   ------------  ------------
      355          187          52.6%          22          100.0%

PROOFREADING DONE. ENTERING WORD REVIEW.

-- Press any key to continue →
```

------------------------------- new screen -------------------------------

```
Menu of Actions for REGULAR WORD REVIEW

PRESS            IN ORDER TO
--------         ----------------
1 or A           ADD correct word to dictionary
2 or M           MARK incorrect word with symbol "@"
3 or I           IGNORE word (will not add or mark)
4 or R           RETURN to previous word to re-reviewing
5 or ?           HELP — instructions on what to do next
6 or X           EXIT word review and enter SPECIAL REVIEW

    Recap for Prior Word              Current Word for Reviewing
    Word (Action Chosen)        Number    Word    → (Action)
-------------------------------  -------------------------------------
                                  #22    ADVNACED → M
```

What are *SPELLGUARD*'s Unique Advantages?

- *SPELLGUARD* **proofreads accurately** and has sophisticated, automatic features to handle the difficult problems in proofreading. For example, *SPELLGUARD* has automatic facilities to handle hyphenated words (e.g., day-old), hyphens that end a line, "ghost" hyphens, and apostrophes. Furthermore, the *SPELLGUARD* dictionary includes only actual words. It does not allow nonsense words that are sometimes formed when word endings (e.g., "ed", "ing", etc.) are haphazardly added to "root" words.

- *SPELLGUARD* **is easily used by the first-time user.**

- *SPELLGUARD* **proofreads with amazing speed.** Osborne users can use *SPELLGUARD*'s 10,000 word dictionary to proofread a 10,000 word document (about 20 pages) in about two minutes.

- *SPELLGUARD* **can proofread text files of any size with dictionaries of any size.** Dictionary and text file size is limited only by diskette storage capacity. *SPELLGUARD* creates no temporary or "scratch" files, so disk storage space is used most efficiently.

- *SPELLGUARD* **can be used with most of the popular word processors and text editors.** At this writing, the program has been successfully used with ED, Electric Pencil, Magic Wand, WordMaster, and WordStar. In fact, most CP/M-based systems will successfully work with *SPELLGUARD*. The program can be modified so that it can be used with other word processors and text editors. Please contact your Osborne dealer for the latest list of word processors and text editors compatible with *SPELLGUARD*.

Two additional software features make the *SPELLGUARD* package unique. First, a special program is provided which tells the user whether the *SPELLGUARD* program is working properly. This is the VALIDATE Option in the program MAINTAIN.COM. Often, when a computer program fails to run correctly, the user does not know whether the fault lies with the software (the program) or the hardware (the computer system). The VALIDATE feature can determine whether the current copy of *SPELLGUARD* on the diskette is at fault. MAINTAIN .COM can detect the existence of errors in the program with an accuracy greater than one part in a billion.

The second feature provided *SPELLGUARD* users is REVISE. This feature allows Osborne to send registered users a coded sheet which has updates to the original *SPELLGUARD* programs. The codes can be safely entered by a non-technical user. The REVISE function is one of the features greatly needed by the microcomputer software industry.

What are *SPELLGUARD*'s Limitations?

SPELLGUARD does not completely eliminate the need for proofreading. Proofreading is still required to make sure the document makes sense. It is possible that the text has a word that is spelled correctly but is misused. Consider the following example,

<p align="center">He came two.</p>

In this case, the word "two" is spelled correctly, but it is the wrong word. The author undoubtedly meant "too". *SPELLGUARD* will not find this error. *SPELLGUARD* will not find typos that happen to be real words.

This is not a major limitation because it is not difficult for typists to re-read their material to make sure it makes sense. Proofreading "for sense" is easier than the painstaking proofreading required to find all typographical errors and misspellings.

Many word processors and text editors add special commands in the text. These special commands often begin with a period or dot (e.g., ".LM" to change the left margin). These special commands are non-words, and they may be detected by *SPELLGUARD* as a mismatched word. This is not really a limitation, though, because the user can easily add these letter combinations to the *SPELLGUARD* dictionary and make them "official" words.

SPELLGUARD will skip over all words or letter combinations in a text file that are longer than 42 characters. *SPELLGUARD* will proofread the file in the normal fashion, and will print a message indicating how many long words have been ignored.

Advanced *SPELLGUARD* Features

SPELLGUARD has the following capabilities which can be utilized by the sophisticated user to:

- maintain multiple dictionaries,

- add or subtract dictionaries to make new dictionaries, and

- customize interactive program dialog.

The Dictionary Management Option provides the capability of adding and subtracting dictionaries to form new dictionaries. Chapter 3.2 talks about how dictionaries are built, listed and modified.

Dialogue customization is made possible by another program option, the Default-Table Option. The Default-Table contains a list of instructions to the computer which tells the computer the name of the dictionary to use during proofreading, what character to use as the special marking character, whether the terminal is a CRT or hard copy terminal, etc. To make *SPELLGUARD* as simple as possible for the new user, the instructions required to run the program on your Osborne under normal conditions have been entered into the Default-Tables supplied with the original copy of *SPELLGUARD*. Chapter 3.1 talks more about the Default-Table.

1.2 "Unpacking" A New *SPELLGUARD* System

Purpose of This Section: This section tells new *SPELLGUARD* owners how to get started. This procedure requires someone familiar with CP/M operation.

Unpacking the System

The *SPELLGUARD* package contains this manual and two floppy diskettes.

The following steps should be followed by new users.

STEP 1: Check to be sure you have the complete system: one copy of the manual and two floppy diskettes.

STEP 2: Read Chapters 1 and 2 of this manual.

STEP 3: Read and understand the License Agreement. If you are unwilling to agree to its terms, return the manual and the unopened diskette package to your dealer for your money back.

STEP 4: Place your CP/M System diskette in drive A.

STEP 5: Put the *SPELLGUARD* disk 1 in drive B. Type **DIR B:** to tell CP/M to print a directory listing of all files.

You should see on your screen the following file names listed:

(1) SP.COM   (the initial program)
(2) SP.OVL   (the main program)
(3) SP.DIC   (the dictionary with 10,000 words)

The second diskette (labelled diskette 2) contains the following files:

(4) MAINTAIN.COM   (a program for software maintenance)
(5) LETTER.TXT   (a file for proofreading practice)
(6) LARGE.DIC   (a 20,000 word dictionary)

The numbers and comments will not appear.

Files (1) through (3) are required for regular *SPELLGUARD* usage. File (4) should be saved for a rainy day, since it is only used for occasional software maintenance as described in Chapter 4. File (5) need not be kept as it is only for demonstration purposes for new users of *SPELLGUARD*. File (6) is a larger dictionary than SP.DIC but can only be used with small files, as described in the addendum sheet at the beginning of this manual.

STEP 6: Copy the two *SPELLGUARD* diskettes onto separate diskettes and configure them using the instructions at the start of this manual.

STEP 7: Place disk 1 in drive A, disk 2 in drive B, and press ˆC. When the A prompt (A>) appears, proofread the file LETTER.TXT by typing:

SP B:LETTER.TXT <cr>

You may load the *SPELLGUARD* program automatically by placing disk 1 in drive A, disk 2 in drive B, pressing the RESET button, and pressing RETURN. When the Master Menu appears, press **P** to proofread, then type **B:LETTER.TXT** in answer to the prompt and press RETURN.

Follow the example in Chapter 1.1.

STEP 8: Proofread the sample text file to get more familiar with the proofreading process. We recommend that you make a second backup copy of all *SPELLGUARD* files so you can make another copy if the disk you just copied is destroyed accidentally.

Review the manual once more after proofing the sample text file before proceeding with larger files.

STEP 9: You should make a backup copy of your dictionaries about once a week, so you will have all the words that have been added should a diskette fail or be lost. As with any system, it is a good idea to occasionally review this manual. As you become more familiar with *SPELLGUARD*, you will discover and use more of *SPELLGUARD*'s powerful features. Chapters 3 and 4 discuss these features in more detail.

NOTE 1: You should always take care to make backup copies of all *SPELLGUARD* programs.

NOTE 2: All programs in the *SPELLGUARD* package are copyrighted by SORCIM. It is the user's responsibility to see that reasonable precautions are taken to prevent copies from being used on another computer system for which the product is not licensed.

CHAPTER 2. BASIC *SPELLGUARD* FEATURES

Summary of Chapter: This chapter describes in more detail how to proofread to find spelling and typographical errors. First, though, some of the basic features of the program are discussed.

The basic *SPELLGUARD* features allow the user to:

(1) Proofread: Find the spelling mistakes and typographical errors in a text file. This is described in this chapter.

(2) Ask for HELP: Have the program explain general or specific program options.

(3) Change Prompts: Have the program use either full, complete options, or shortened, abbreviated options.

(4) End the Program: Have the program return to CP/M.

Each of these options is listed in the Master Menu.

2.1 List of Things *SPELLGUARD* Can Do (Master Menu)

Purpose of This Section: This section reviews the list of options that appear on the Master Menu.

Definition of the Master Menu: The Master Menu is the first screen printed when the user runs *SPELLGUARD*. When you type **SP** followed by the name of a text file (as in the example shown in Chapter 1.1), the Master Menu is not printed. In this case, *SPELLGUARD* immediately begins proofreading the named text file.

The Master Menu contains the list of things you can do with *SPELLGUARD*. A menu is nothing more than a list of options from which the user can choose.

Throughout this manual, examples of *SPELLGUARD* sessions will be given. The boxed text will simulate your Osborne's video screen. The numbers in square brackets to the right of the "screen" refer to the explanations which are found in the text that follows.

Example of the Master Menu:

The user types:

A> **SP** <RETURN>

[1]

```
                    Spellguard (tm)
                    Version 2.0
                    CPU: 8080
                    S/N- 00002


                    Copyright 1982
                    SORCIM CORP.
                    Santa Clara, CA.



— Press any key to start →
```

[2]

-------------------------------- new screen --------------------------------

```
MASTER MENU (List of things you can do)


PRESS           IN ORDER TO
--------        ------------------
1 or P          PROOF spelling in a text file
2 or A          ALTER Default-Tables (#1 STANDARD)
3 or R          REORGANIZE AND EXAMINE dictionary(s).
4 or C          CHANGE from "EXPERT" to "BEGINNER"
5 or ?          HELP — show user instructions
6 or X          EXIT from SPELLGUARD

— Press Number or Letter →
```

[3]

[4]

[1] In this example, the user has run *SPELLGUARD* by typing only **SP**. No text file name was specified. Note that typing **SP** <**filename**>, instead of just **SP**, immediately starts proof-reading the document <**filename**>.

[2] Each time *SPELLGUARD* runs, the program serial number will be printed. Use the serial number in any correspondence with Osborne.

[3] The *SPELLGUARD* program gives the user a choice of six things to do. The user must select one.

The first option, proofreading spelling, will be thoroughly described in this chapter. Option (2), Alter Default-Tables, will be described in Chapter 3.1. Option (3), Reorganize and Examine dictionary(s), will be described in Chapter 3.2.

4 or C CHANGE prompt level from "EXPERT" to "BEGINNER".

SPELLGUARD supports two levels of prompting. A prompt is the computer's way of asking what to do next. The BEGINNER level contains more complete explanations in its prompts than does the EXPERT level. An important EXPERT feature is that the user can enter two single character responses without having to wait for the computer to carry out the first request.

After the user has changed from one level to another, *SPELLGUARD* will "remember" so that when *SPELLGUARD* is re-run, all prompts will be the same level as when the user last used the program.

When you receive this program, the prompt level is set to EXPERT. Press **4** or **C** to change this to BEGINNER while you are becoming familiar with this program. The screen examples in this manual are all at the EXPERT level.

5 or ? HELP — Show instructions on what to do next.

See the discussion on the next page for a more thorough presentation of how to use the HELP commands.

6 or X EXIT Spellguard, Return to CP/M.

When the *SPELLGUARD* program has finished proofreading, the user should select this option. CP/M will automatically be "rebooted" (the user will see the familiar CP/M "**A>**"), and the user can run another program. Some word processors (e.g., WordStar 2.0) allow the user to run programs directly from the word processor.

[4] To select one of the six options, the user need only type EITHER the option number OR the option letter. The user need NOT push the Return Key after selecting an option from any menu. Pressing the Return Key is required when the user enters the name of the text file, the name of the dictionary, or any input requiring more than a single character.

2.2 The HELP Commands

Purpose of This Section:

This section provides information about how to use *SPELLGUARD*'s built-in HELP commands.

The example continues . . .

```
MASTER MENU (List of things you can do)


PRESS           IN ORDER TO
--------        -----------------
1 or P          PROOF spelling in a text file
2 or A          ALTER Default-Tables (#1 STANDARD)
3 or R          REORGANIZE AND EXAMINE dictionary(s)
4 or C          CHANGE from "EXPERT" to "BEGINNER"
5 or ?          HELP — show user instructions
6 or X          EXIT from Spellguard

— Press Number or Letter →5                                              [4]

<<< HELP INSTRUCTIONS >>>

Press G for General instructions about the actions.                      [5]
Press Digit or Letter for information about action. Press RETURN key to go
back immediately to the menu.

— Press G, Digit, Letter, or RETURN key →G             .                 [6]

Welcome to SPELLGUARD. This screen lists things that you can have the
program do. For example, type either the letter P or number 1, and SPELL-
GUARD will proofread a text file. You order the program to do other things by
entering EITHER the number or the letter that corresponds to the action.

Press any key to go back immediately to the menu.        •               [7]
```

[4] The user selects the HELP option.

[5] *SPELLGUARD* prints the three possibilities from which the user must choose.

- Pressing the "**G**" will show a brief explanation of what the menu is designed to do.

  If the Master Menu is displayed, the HELP message will talk about the Master Menu. If the Menu of Actions for the Alter Instruction List is displayed, the help message will describe the things the user can do on that menu.

- Pressing a number or letter will display information that describes the corresponding menu option. If, for example, the user pressed the R key, the program would provide information about the REORGANIZE AND EXAMINE option.

- Pressing only the Return Key will immediately return the user to the menu that was being displayed when HELP was requested.

Each menu of actions in *SPELLGUARD* has a similar HELP feature.

[6] In this example, the user selects the "G" option and *SPELLGUARD* prints out general instructions about the Master Menu.

[7] Here the user presses the "." key and *SPELLGUARD* redisplays the Master Menu.

2.3 Proofreading To Find Spelling Errors

Purpose of This Section: This section describes how a document can be proofread to find spelling and typographical errors.

Proofreading Example:

The example in the section below shows a sample proofreading session. The user has just written a document called "HOPKINS.LET" using a text editor. The user now wants to use *SPELLGUARD* to find typos and spelling mistakes. See Chapters 2.1 or 1.1 to see how the user begins running the program.

MASTER MENU

[The computer prints out the Master Menu. See Chapter 2.1 to see the Master Menu and to understand its options.]

— Press Number or Letter →**P**   [8]

----------------------------- new screen ----------------------------

---

BEGIN PROOFING

Dictionary File: SP.DIC 10,249 words   [9]

Text File

— Type disk drive name to SHOW FILE NAMES, type TEXT NAME, press
RETURN to EXIT→**B:**   [10]

Alphabetized List of Files on DISK DRIVE B

CASH.BAS   EDGE.LET   HOMEBREW.LET   HOPKINS.LET
INVOICE.FRM   LAW.DIC   WILSON.LET

— Type disk drive name to SHOW FILE NAMES, type TEXT NAME, press
RETURN to EXIT →**B:HOPKINS.LET**   [11]

---

[8] The user selects the proofread option. The user could have pressed the "one key" (1) as well. Either the one key or the letter "P" key will tell the computer to begin proofreading. Since only a single character is required, the Return Key need not be pressed.

[9] *SPELLGUARD* tells the user the name of the dictionary it will use for proofreading. The program looks for a file called SP.DIC on the same diskette as the *SPELLGUARD* program. If the dictionary is on another disk drive, then standard CP/M naming convention should be followed (e.g., B:SP.DIC).

The user can change the name of the dictionary used during proofreading by changing one of the pre-set instructions to the computer that are part of a Default-Table. Changing pre-set instructions will be discussed in Chapter 3.1.

[10] The user is unsure of the precise name of the document to be proofread, so the user asks the computer to list out all file names on the specified disk drive by pressing the three keys, "B", ":", and "Return Key". In the example, the user wanted to know the names of all files on disk drive B. For convenience, *SPELLGUARD* shows file names alphabetically. Those file-names which end with the characters ".COM" and ".BAK" are not shown because it is unlikely they will be proofread by *SPELLGUARD*. Normally, Osborne owners will have the file they wish to proofread on drive B:.

[11] Again, the computer asks the user to supply the name of the document to be proofread. The user responds by typing **B:HOPKINS.LET**. Remember that CP/M naming standards should be followed. The name should be preceded by the disk drive containing the document and a colon (e.g., B:HOPKINS.LET since the file is on disk drive B).

The example continues . . .

```
                          BEGIN PROOFING
  Dictionary File: SP.DIC                   10,249 words              [12]

        Dictionary File "SP.DIC"        Text File "B:HOPKINS.LET"

   # Words     # Words     % Words     # Words      % Proofing
    Read       Unique      Unique      Mismatch        Done
  ----------  ----------  ----------  ----------  ------------
   12,345      1,800       14.2%         27          100.0%          [13]

  PROOFREADING DONE. ENTERING WORD REVIEW.

  — Press any key to continue →                                      [14]
```

[12] *SPELLGUARD* clears the screen and then displays the names of the dictionary being used and the name of the text file it is proofreading.

[13] As *SPELLGUARD* proofreads the document, numbers will appear in the first three columns. The first column tells how many words *SPELLGUARD* has read in the document so far (*). The second column tells the number of unique words (if the word "the" appears 100 times, it will only count as a single unique word). The third column tells the percentage of unique words. These statistics may be useful in evaluating the written document. If, for example, a technical manual is being written, one objective might be to have as few different words as possible. The percentage of unique words, therefore, should be small.

Once *SPELLGUARD* has finished reading the document, it checks each word with its dictionary. Numbers now appear in the fourth and fifth columns. The fourth column tells the number of words the computer can not find in its dictionary (mismatched words). Mismatched words can result from typographical errors or misspellings. The final column tells the user what percentage of the dictionary has been read.

[14] After the program has done 100% of the proofreading, a message appears telling the user to press any key. Pressing a key will cause a new display to appear. The user now begins reviewing the mismatched words.

The example continues . . .

```
┌──────────────────────────────────────────────────────────────────────┐
│  Menu of actions for REGULAR WORD REVIEW                        [15]   │
│                                                                        │
│  PRESS            IN ORDER TO                                          │
│  -------          ----------------                                     │
│  1 or A           ADD correct word to dictionary                       │
│  2 or M           MARK incorrect word with symbol "@"                  │
│  3 or I           IGNORE word (will not add or mark)                   │
│  4 or R           RETURN to previous word for re-reviewing             │
│  5 or ?           HELP - instructions on what to do next               │
│  6 or X           EXIT word review and enter SPECIAL REVIEW            │
│     Recap for Prior Word            Current Word for Reviewing         │
│     Word (Action Chosen)      Number     Word    → (Action)            │
│  --------------------------   ----------------------------------       │
│  ABALITY       <M>            #26      AUDITION   →A              [16]  │
│                                                                        │
│                               #25      BIGGEER    →X             [17]  │
└──────────────────────────────────────────────────────────────────────┘
```

When the user selects an option for a word, the word just evaluated will appear on the left side of the screen. The action that the user took (e.g., A for add) will be shown immediately to the right. The next word in the list will then be shown under the column CURRENT WORD.

(*) All counters go only to 65,535, at which point they become zero and begin again. This does not affect proofreading accuracy.

[15] The Regular Word Review Section allows the user to individually review each mismatched word. Words are listed in alphabetic order. For each word, the user has several options:

ADD   Choosing this option automatically adds the mismatched word to the user's current dictionary. The next time this dictionary is used, this word will be considered as correctly spelled and will not be a mismatched word. In this example, AUDITION was not in the dictionary SP.DIC. The user tells the computer to add this word. Remember that there is no limit imposed on the number of words added to a dictionary except available disk storage.

MARK   Choosing this option indicates that the mismatched word is a typo or a misspelling. *SPELLGUARD* will mark every occurrence of this word in the user's document by replacing the last character with the indicated special symbol. In this case, all misspelled words will be marked with the symbol "@". The misspelled word "BIGGEER" would appear in the text as "BIGEE@".

IGNORE   Choosing this option tells the computer that the word is correctly spelled but should not be added to the dictionary. Documents often contain names of places, names of people, or technical terms that are seldom used. Since these words will be rarely seen again, adding them to the dictionary would only add unnecessary clutter. The IGNORE option is designed for these seldom used words so they can be neither added to the dictionary nor marked in the text file.

RETURN   If the user wishes to change the review of the previous word, the RETURN option should be chosen. This brings the previously marked word back to the CURRENT WORD column. The word can be re-reviewed and a new option chosen.

HELP   If the user wants more information about the Word Review options, the ? or the number 5 key should be pressed.

EXIT   Choosing this option will take the user to a list of Special Word Review Options (see next 2 pages).

[16] The user decides this word is correct and is to be added to the dictionary. If this word were incorrect, the user would have typed M and each occurrence of the word in the text would be marked with an @ sign replacing the last character.

[17] The user selects the SPECIAL REVIEW option. This option is typically used only by advanced users and is explained on the following pages.

The example continues . . .

```
Menu of actions for SPECIAL WORD REVIEW                                    [18]

   PRESS          IN ORDER TO
   --------       ----------------
   1 or A         ADD ALL remaining words to the dictionary
   2 or M         MARK ALL remaining words in the text file
   3 or I         IGNORE ALL the remaining words
   4 or L         LIST THE remaining words
   5 or C         CANCEL, return to REGULAR WORD REVIEW
   6 or ?         HELP — instructions on what to do next
   7 or X         EXIT/ABANDON ALL WORD REVIEW, return to the MAS-
                  TER MENU AND DO NOT MARK ANY WORDS OR ADD TO
                  DICTIONARY

 — Press Number or Letter → M                                             [19]

 Mark in text ALL 25 remaining words?

 (Enter Y or N) →                                                         [20]
```

[18] The Special Word Review section allows the user to review all remaining mismatched words as an entire unit. Regular word review only permits the user to review each word, one word at a time. A decision must be made for each word. In Special Word Review, a single decision can be made about all remaining mismatched words.

Assume, as in this example, that *SPELLGUARD* has found 27 mismatched words. The user has reviewed the first two words. At this point the user decides to list the remaining 25 mismatched words. The user selects the Special Word Review Option (X) during regular Word Review. The computer shows the user the menu above. The user then selects option 4, to LIST the remaining words. The remaining 25 words are listed (this is not shown here). If all remaining mismatched words are incorrect and should be marked in the text file, then the user can select the second Special Word Review Option (MARK ALL remaining words).

NOTE: All Special Word Review Options except one affect only the mismatched words that have not already been reviewed. In the example above, the first two words reviewed during regular Word Review would not be affected. Only the EXIT option affects the words previously reviewed during Regular Word Review.

The options for Special Word Review are as follows:

ADD ALL   This option adds all the remaining mismatched words to the dic-
                               tionary. It does not affect any words that had been previously
                               reviewed during Regular Word Review.

MARK ALL

This option tells the computer that all remaining mismatched words are misspellings and/or typos and should be marked with the special marking character. This will not affect any words previously reviewed during Regular Word Review.

IGNORE ALL

This option tells the computer to neither add the remaining words to the dictionary nor mark them as incorrect. None of the previously reviewed words will be affected.

LIST ALL

All remaining mismatched words will be listed on the user's screen. To stop the listing, the user should type any key. Typing any other key will restart the listing. The X key stops the listing, and returns the user to the Regular Word Review.

CANCEL SPECIAL OPTIONS

When the user is ready to return to the Regular Word Review, this option should be chosen. In the Regular Word Review, the user will be presented with the next mismatched word that needs to be reviewed.

If, in the example on the left, the user had decided to return to the Regular Word Review after listing all remaining mismatched words, the program would redisplay mismatched word #26 for review.

HELP

This option provides additional information about the Special Word Review options. The user should select this option if it is unclear what should be done next.

EXIT

This option causes the proofreading session to end. No words will be added to the dictionary and no words will be marked in the document text file. Even the words previously reviewed during Regular Word Review will not be added to the dictionary or marked. This option allows the user to terminate a proofreading session abruptly. The program will return to the Master Menu.

[19] The user tells *SPELLGUARD* to mark all remaining mismatched words in the text file.

[20] *SPELLGUARD* will ask to make sure the user really wants to mark all remaining mismatched words. This confirmation request appears for the ADD ALL option as well.

2.3

The example continues . . .

WORD REVIEW DONE. START DICT. UPDATE AND TEXT MARK

Number of words being added to dictionary = 1   **[21]**

Number of mismatched words for marking = 25   **[22]**

Words will be shown as they are marked in the text.   **[23]**

Press X to IMMEDIATELY ABANDON text file marking.

    #1 trennd   #2 abality   #3 Biggeer   #4 trennd
  (etc.)

The last character of each incorrect word has been changed to @ in text File "B:HOPKINS.LET".   **[24]**

File "B:HOPKINS.BAK" is a copy of the original text.

— Press any key to continue → **C**   **[25]**

---

[21] *SPELLGUARD* now adds all the words the user wanted to add to the current dictionary. In this example, the user has indicated that one of the 27 mismatched words should be added to the dictionary.

[22] The user has also told *SPELLGUARD* that 25 of the mismatched words were misspellings or typographic errors and should be marked in the text with the special marking character.

[23] *SPELLGUARD* will now go through the user's text and mark the incorrect words. The user can elect to see these words as they are being marked and in the same order as they appear in the text file. Seeing the words as they are being marked in the text file is one of the things that the user can pre-set on the Default-Table's list of instructions to the Computer. See Chapter 3.1 for instructions on setting this option.

Each occurrence of the word designated for marking will be printed on the screen. Note that the word "trennd" appeared in two places in the text file.

The user can abandon the proofreading session by typing the letter X. This will return the user to the Master Menu. No marks will be made in the text file.

[24] *SPELLGUARD* reminds the user how the words have been marked in the file and the name of the backup file.

[25] The screen is stopped until the user presses any key. Normally, the Master Menu would reappear immediately. However, as this page shows, the program needed to reorganize its dictionary. Dictionary reorganization is required after about 250 new words are added to the dictionary. The computer will automatically perform this reorganization when required. It takes only a few minutes to reorganize the dictionary.

The example continues . . .

Please wait while the program reorganizes Dictionary File "SP.DIC" (10,250 words)   **[26]**

Words So Far	Total Words	** DO NOT INTERRUPT REORGANIZATION **
10,250	10,250	(Always save backup copies)

[27]

DICTIONARY FINISHED.

— Press any key to continue → **C**

[28]

------------------------------ new screen ------------------------------

MASTER MENU (List of things you can do)

PRESS   IN ORDER TO
1 or P   PROOF spelling in a text .file
2 or A   ALTER Default-Tables (#1 STANDARD)
3 or R   REORGANIZE AND EXAMINE dictionary(s)
4 or C   CHANGE from "EXPERT" to "BEGINNER"
5 or ?   HELP — show user instructions
6 or X   EXIT from SPELLGUARD

— Press Number or Letter → **X**

[29]

[26] After approximately 250 new words are added to a dictionary, *SPELLGUARD* must take a few minutes to reorganize its dictionary. **The user must not interrupt the reorganization by pushing the RESET key or turning off the computer power.** Doing this will cause the dictionary being reorganized to be destroyed. Users should always keep an extra copy of their dictionary in case the dictionary reorganization is disrupted accidentally (e.g., power failure).(*)

(*) *SPELLGUARD* maintains a special flag in the first record that recognizes when dictionaries have been interrupted. When this happens, *SPELLGUARD* will refuse to proofread with a bad dictionary. See Appendix B for further details.

[27] The program tells the user how many words have been reorganized so far, and how many total words need to be reorganized. This provides the user an opportunity to monitor the dictionary reorganization process.

[28] The program has now completely reorganized the dictionary. When the user pushes any key, the program will return to the Master Menu. The proofreading session has now been successfully completed.

[29] In this example, the user has no more files to proofread, so the user presses the X key to leave *SPELLGUARD*. The user will now run the the text editor or word processor to automatically find every instance of the special marking character and correct the typos and misspellings. The user should check the word processor or text editor to determine the exact procedure for finding a particular character. Almost all word processors have a "find next ---" or "search" command which can be used to find all occurrences of the special marking character.

To correct errors, tell the word processor to automatically find all words with the special marking symbol. If the special marking character was @, then the word processor would be instructed to find all words containing the @ character. With the Osborne 1 and WordStar, the WordStar command to find the "@" is ^QF, then a @, then press RETURN. To find each subsequent occurrence, use the FIND AGAIN command, ^L. Check the Osborne user guide for more information on this procedure.

If there are many spelling errors, *SPELLGUARD* should be used again to make sure all errors have been corrected.

CHAPTER 3. ADVANCED FEATURES: *SPELLGUARD* FEATURES BEYOND BASIC PROOFREADING

Summary of Chapter: It is possible for users to proofread with great success using only the material covered in Chapter 2. However, *SPELLGUARD* has powerful features for manipulating words for text analysis and for customizing the *SPELLGUARD* dialog. Chapter 3.1 describes how to change the dialog through the use of Default-Tables. Chapter 3.2 describes the dictionary management features.

3.1 Changing Instructions to the Computer (Default-Table)

Purpose of This Section: This section explains how the user can pre-set instructions to the computer. These instructions guide the *SPELLGUARD* program when it is run. First time users do not need to use this function, and will better be able to understand the concepts after they have had experience using the program.

What is a Default Table?

Every time *SPELLGUARD* is run, the program requires a number of different pieces of information. *SPELLGUARD* needs to know:

- the name of the dictionary to be used for proofreading,

- the name of the text file to be proofread,

- the character used to mark errors in the text file,

- whether or not the user wants a backup copy of the original document text file which will not be marked with the special character,

- whether or not the user will use *SPELLGUARD* with a hard copy terminal or a video (CRT) screen terminal, and

- whether or not the user wants words listed as they are marked in the text after proofreading.

It would be time consuming for the user to enter all of this information every time *SPELL-GUARD* was run. The Default-Table is the way the user can supply this information in advance. If the computer can find the information it requires in the Default Table, it will not ask the user for that information.

SPELLGUARD comes with three different Default-Tables. Only one table is active at a time. The Default-Table that is set to "active" will guide the interaction with the computer.

When *SPELLGUARD* is initially shipped, Default-Table #1 is called "STANDARD" and is "active". This table has SP.DIC as the active dictionary, and the table is designed for the convenience of new users. Default-Table #2 is called "NO FILES" and is set up to require the user to input both the name of the dictionary and the text file name whenever it is the active table. Default-Table #3 is called "TEST" and is similar to Default-Table #1. A user might, for example, develop a dictionary in the user's particular application area and place it in the dictionary "slot" in this Default-Table.

There are two main ways in which the Default-Table is useful:

(1) An experienced user can construct a Default-Table so that inexperienced *SPELL-GUARD* users can rapidly use the system with minimal training.

(2) Experienced users can speed up their proofeading by entering all of the information required by the computer in the Default-Table.

The Alter Default-Table Option (option 2 on the Master Menu) is designed to let the user conveniently examine and change the information in the three Default-Tables. It allows the user to:

• display the pre-selected items on a Default-Table,

• change a pre-selected item on a Default-Table,

• list the names of the 3 Default-Tables,

• change the Default-Table that is active, and

• copy a Default-Table.

The following pages contain dialog samples illustrating the Alter Default-Table Option.

EXAMPLE OF THE ALTER DEFAULT-TABLES FEATURES

MASTER MENU (List of things you can do)

PRESS   IN ORDER TO
--------   ------------------
1 or P   PROOF spelling in a text file
2 or A   ALTER Default-Tables (#1 STANDARD)
3 or R   REORGANIZE AND EXAMINE dictionary(s)
4 or C   CHANGE from "EXPERT" to "BEGINNER"
5 or ?   HELP — show user instructions
6 or X   EXIT from *SPELLGUARD*

— Press Number or Letter →**2**   **[1]**

--------------------------- new screen ---------------------------

Menu of Actions for ALTERING DEFAULT-TABLES   **[2]**

PRESS   IN ORDER TO
--------   ------------------
1 or D   DISPLAY and/or ALTER a Default-Table
2 or L   LIST names of the 3 stored Default-Tables
3 or C   CHANGE the active Default-Table
4 or M   MAKE a copy of a Default-Table
5 or ?   HELP — show instructions
6 or X   EXIT and return to MASTER MENU

(Presently Active Default-Table is #1 STANDARD)   **[3]**

— Press Number or Letter →**1**   **[4]**

[1] The first screen begins with the user at the "Master Menu" level. The user selects the second option on the Master Menu, telling *SPELLGUARD* that the user wants to do something with one of *SPELLGUARD*'s Default-Tables.

[2] There are six possible actions for altering Default-Tables:

DISPLAY   This option lists all of the values that have been pre-selected for each question or "slot" on the chosen Default-Table.

The DISPLAY option also allows the user to change the instruction in each one of these slots. All changes will be "remembered" by *SPELLGUARD* so that when the user again uses the same list at some future time, the list will contain the instructions provided when the list was last changed.

After a list has been displayed, it becomes the active Default-Table.

LIST   This option lists the names of the Default-Tables. Names should be chosen to describe the Default-Table's function. If one list was primarily used by a particular individual, the person's name could be used as the Default-Tables name. The LIST option also tells which Default-Table is currently active.

CHANGE   This option changes the currently active Default-Table. There are three tables and only one can be active at a given time.

MAKE   This option copies all of the instructions from one Default-Table to another. It permits the user to quickly construct a new list that will be identical to another list except for a few items. In this example, the user first copies a list and then uses the DISPLAY option to change the particular instructions that will be different in the new list.

HELP   This option provides the user with additional information on what to do next.

EXIT   This option returns the user to the Master Menu.

[3] This tells the user that Default-Table #1 is the currently active Default-Table and that its name is "STANDARD."

[4] The user must select one of the six items.

In the subsequent pages, each of the first four Default-Table Options will be discussed and examples will be given.

3.1.a. The DISPLAY Option:

In this example the user wants to see the instructions to the computer in a specific Default-Table. The user also might want to change one or more of these instructions.

The example continues after the user selects action 1, "Display and/or alter a Default-Table." . . .

```
------------------------------- new screen -------------------------------
```

```
NAMES OF DEFAULT-TABLES

Default-Table #1 STANDARD (presently active)                              [5]
Default-Table #2 NO FILES
Default-Table #3 TEST

What is the number of the Table to be displayed and (optionally) altered?

(1,2,3 OR <RETURN>) . . ? 1                                               [6]
```

```
------------------------------- new screen -------------------------------
```

```
Default-Table Number 1                                                   [7]

(1) Name of Default-Table . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . STANDARD    [7.1]
(2) Dictionary used in proofreading . . . . . . . . . . . . . . . . . . . . . . . SP.DIC          [7.2]
(3) Text File to be proofread  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . *         [7.3]
(4) Character to mark misspelled words . . . . . . . . . . . . . . . . . . . . . @               [7.4]
(5) Preserve original text in file called <FIRSTNAME>.BAK
    (Y - Yes, N - No) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Y
(6) Console: Screen (S), Hard Copy (H) . . . . . . . . . . . . . . . . . . . . . . . S
(7) Show words during text marking (Y,N) . . . . . . . . . . . . . . . . . . . . . . Y

What item number will be altered?

— Press 1-7 or Return Key to EXIT →
```

[5] *SPELLGUARD* responds by first displaying the names of the 3 Default-Tables to aid the user in selecting the one for display.

[6] The computer then asks the user to enter the number of the Default-Table to be displayed. Here, the user responds with a "1" for Default-Table # 1. The response need not be the currently active Default-Table.

[7] The screen is cleared and all information in Default-Table 1 is displayed. It contains 7 different items. The following paragraphs discuss each of the items on the Default-Table.

[7.1] **Name of Default Table:** Each Default-Table is given a name having from 1 to 8 characters. This name should describe the purpose of a particular table. The name is provided only as an easy way of remembering what a particular Default-Table will do.

[7.2] **Name of Dictionary:** This instruction tells the computer the name of the dictionary to use when proofreading a document. As has been mentioned previously, the user may have a large number of different dictionaries. Only one dictionary may be used in proofreading a particular document. If many users are using the same *SPELLGUARD* program, each may

want an individualized dictionary. The user should remember to follow CP/M naming convention when entering the name of the dictionary. If the dictionary is not on the same disk as the *SPELLGUARD* program, the dictionary name must be preceded by the disk drive letter and a colon (e.g., B:SP.DIC). Dictionaries may have any valid CP/M name. If the user wants *SPELL-GUARD* to ask for the Dictionary Name each time proofreading is performed, the user should put an asterisk (*) in this space.

[7.3] Name of Text File: This instruction tells the computer which text file to proofread. Most users will want to enter a "*" here instead of the name of a particular text file, because the text file will most likely change each time the program is run. On the other hand, the user may be working with a document that requires many drafts. In this case, the user may be proofreading the same document after each revision and may want to enter the document name in the Default-Table. This will save the user from repeatedly having to re-enter the text file name.

[7.4] Character Used for Marking Misspelled Words: This instruction tells the computer what character should be used to mark misspelled words. For the examples in this manual, *SPELLGUARD* uses the "at sign" ("@") to mark misspelled words, but some users may have many "@" symbols in their document. In this case, the user can change the special marking symbol used by *SPELLGUARD*.

Remember that this special marking character replaces the last character of the word.

The example continues (the screen of the previous page is repeated . . .

```
┌──────────────────────────────────────────────────────────────────┐
│                                                                      │
│   Default-Table number 1                                      [7]   │
│                                                                      │
│   (1) Name of Default-Table . . . . . . . . . . . . . . . . . STANDARD   [7.1]  │
│   (2) Dictionary used in proofreading . . . . . . . . . . . SP.DIC   [7.2]  │
│   (3) Text File to be proofread  . . . . . . . . . . . . . . . *   [7.3]  │
│   (4) Character to mark misspelled words . . . . . . . . . . @   [7.4]  │
│   (5) Preserve original text in file called <FIRSTNAME>.BAK        │
│       (Y - Yes, N - No)  . . . . . . . . . . . . . . . . . . Y   [7.5]  │
│   (6) Console: Screen (S), Hard Copy (H) . . . . . . . . . . S   [7.6]  │
│   (7) Show words during text marking (Y,N) . . . . . . . . . Y   [7.7]  │
│                                                                      │
│   What item number will be altered?                                  │
│                                                                      │
│   — Press 1-7 or Return Key to EXIT →2                          [8]  │
│                                                                      │
│   (2) Dictionary used in proofreading . . . . . . . . . . . . . . .  │
│       Current value = SP.DIC                                         │
│                                                                      │
│   — Type the new value: name, * for console prompt, or Press RETURN to EXIT │
│   →LAW.DIC                                                      [9]  │
│                                                                      │
└──────────────────────────────────────────────────────────────────┘
```

------------------------------ new screen ------------------------------

```
┌──────────────────────────────────────────────────────────────────┐
│                                                                      │
│   Default-Table number 1                                             │
│                                                                      │
│   (1) Name of Default-Table . . . . . . . . . . . . . . . . . STANDARD   │
│   (2) Dictionary used in proofreading . . . . . . . . . . . LAW.DIC   │
│   (3) Text File to be proofread  . . . . . . . . . . . . . . . *     │
│   (4) Character to mark misspelled words . . . . . . . . . . @       │
│   (5) Preserve original text in file called <FIRSTNAME>.BAK          │
│       (Y - Yes, N - No)  . . . . . . . . . . . . . . . . . . Y       │
│   (6) Console: Screen (S), Hard Copy (H) . . . . . . . . . . S       │
│   (7) Show words during text marking (Y,N) . . . . . . . . . Y       │
│                                                                      │
│   What item number will be altered?                                  │
│                                                                      │
│   — Press 1-7 or Return Key to EXIT → <cr>                     [10] │
│                                                                      │
└──────────────────────────────────────────────────────────────────┘
```

[7.1] – [7.4] Turn back for explanation of these.

[7.5] Preserve Original Text in File Called <FIRSTNAME>.BAK: This instruction tells the computer to make a copy of the original document text file on the same disk as the document text file. It is generally good practice to always have a backup copy of all files. This way if problems do occur, it is easy to restore the lost file.

The problem with creating a backup copy is that it takes extra valuable space on the disk. *SPELLGUARD* conserves disk space by never using "scratch files". Do not use this option if you have a long file to proofread on the Osborne I.

[7.6] Console Type: This instruction tells the computer the type of terminal being used. If the user has a CRT (video screen terminal), the user should enter the letter "S". If the user only has a typewriter-like terminal that prints on paper (hard copy terminal), the user should enter the letter "H".

It is important that the user enter the correct terminal type so that the computer output is formatted properly.

SPELLGUARD has been designed especially for use with video screen terminals. While it can be used with a "hard copy" terminal, its performance is definitely enhanced with a video terminal.

[7.7] Show Words On Screen As they are Marked in Text: This instruction tells the computer that the user wishes to see each incorrect word that *SPELLGUARD* marks in the text file as that word is being marked. Remember that incorrect words are marked following the Word Review phase of the proofreading. Generally, the user would want to see the words as they are being marked in the text file. The only reason not to see them being marked is if there is a large number of words to be marked.

[8] The user tells the computer that the name of the dictionary used during proofreading should be changed. The current value of the dictionary name is SP.DIC.

[9] The user wants to make the dictionary LAW.DIC the current dictionary in this Default-Table. Because the name was not preceeded by a disk drive name (e.g., B:), it is implied that LAW.DIC will be on the same disk as the *SPELLGUARD* program. If LAW.DIC were on disk drive B, then the user would have typed **B:LAW.DIC.**

[10] *SPELLGUARD* shows the values in the Default-Table once again, except the name of the dictionary will now be LAW.DIC. In this example, the user does not want to make any more changes. When the computer asks the user what should be done next, the user pushes the Return Key. This takes the user back to the list of options for the Default-Table. The Default-Table that has just been changed will become the active one.

3.1.b. The List Option

In this example, the user wants to list the names of all Default-Tables.

The example continues . . .

```
Menu of Actions for ALTERING DEFAULT-TABLES

PRESS           IN ORDER TO
--------        -----------------
1 or D          DISPLAY and/or ALTER a Default-Table
2 or L          LIST names of the 3 stored Default-Tables
3 or C          CHANGE the active Default-Table
4 or M          MAKE a copy of a Default-Table
5 or ?          HELP - show instructions
6 or X          EXIT and return to MASTER MENU

(Presently Active Default-Table is #1 STANDARD)

— Press Number or Letter →L                                    [11]
```

```
------------------------------ new screen ------------------------------
```

```
NAMES OF DEFAULT-TABLES

Default-Table #1 STANDARD (presently active)                   [12]
Default-Table #2 NO FILES
Default-Table #3 TEST

— Press any key to continue→ C                                 [13]
```

[11] The user selects the second option of the Alter Default-Table Menu in order to get a list of the names of the three Default-Tables.

[12] The computer responds to the request by typing the name of each Default-Table. The first listed is still called STANDARD.

[13] The user presses the C key and returns to the menu for Altering Default-Tables.

3.1.c. The Change Option

In this example, the user wants to make another Default-Table the active Default-Table.

The example continues . . .

```
Menu of Actions for ALTERING DEFAULT-TABLES

PRESS           IN ORDER TO
--------        -----------------
1 or D          DISPLAY and/or ALTER a Default-Table
2 or L          LIST names of the 3 stored Default-Tables
3 or C          CHANGE the active Default-Table
4 or M          MAKE a copy of a Default-Table
5 or ?          HELP — show instructions
6 or X          EXIT and return to MASTER MENU

(Presently Active Default-Table is #1 STANDARD)

— Press Number or Letter →3
```
[14]

------------------------------ new screen ------------------------------

```
(Presently Active Default-Table is #1 STANDARD)

What is the number of the Table to make active?

(1, 2, 3, OR <RETURN>) . . ? 2
```
[15]

The user wants to make Default-Table #2 the active Default-Table. The first thing the user does is to tell the computer to go to the Alter Default-Table Menu.

[14] Once there, the user selects the third option. (The user could have pressed the letter C key instead of the number 3 key.)

[15] The computer tells the user which Default-Table is currently active, and asks the user to enter the number of the one which is to become active. The user in this example wanted to make Default-Table #2 the active list. After changing the active Default-Table, *SPELLGUARD* will automatically return the user to the Alter Default-Table Menu.

3.1.d. The Name Option

In this example, the user wants to make a copy of one of the existing Instruction Lists.

The example continues . . .

```
Menu of Actions for ALTERING DEFAULT-TABLES

PRESS          IN ORDER TO
--------       ------------------
1 or D         DISPLAY and/or ALTER a Default-Table
2 or L         LIST names of the 3 stored Default-Tables
3 or C         CHANGE the active Default-Table
4 or M         MAKE a copy of a Default-Table
5 or ?         HELP — show instructions
6 or X         EXIT and return to MASTER MENU

(Presently Active Default-Table is #2 NO FILES)

— Press Number or Letter → M                               [16]
```

------------------------------ new screen ------------------------------

```
(Presently Active Default-Table is #2 NO FILES)

What is the number for the new Table?
(1, 2, 3 OR <RETURN> . . ?3                                [17]

What is the name for the new Table?

— Type NAME (1-8 characters)
  or Press RETURN ket to EXIT → CHRIS                      [18]

What Table will be copied from?

(1, 2, 3 OR <RETURN>) . .?1                                [19]
```

[16] The user selects the fourth option in order to make a copy of a Default-Table.

[17] The computer wants to know the number of the new Default-Table. The user indicates that the new table will be Default-Table #3.

[18] The user indicates that the new name for this Default-Table will be CHRIS.

[19] The new list is to be copied from Default-Table #1. Default-Table #3 will now have all the items that are in Default-Table #1. The Alter Default-Table Menu will be redisplayed.

3.2. Reorganizing and Examining Dictionaries

Purpose of This Section: This section describes how to add and delete words from dictionaries, how to list the words in dictionaries, and how to make copies of a dictionary. These functions are in addition to the automatic dictionary building capability provided during proofreading (see Chapter 2.3). This section is to be used by those interested in building and modifying specialized dictionaries. Understanding of this section is not required to proofread documents.

The *SPELLGUARD* Dictionaries

The SP.DIC dictionary supplied with *SPELLGUARD* contains approximately 10,000 of the most commonly used words in the English language. This supplied dictionary is a good starting point for users who want to more fully utilize *SPELLGUARD*'s potential. This dictionary can be automatically expanded during proofreading to add more words as was discussed in Chapter 2.3. Other dictionaries can also be created. There is virtually no limit to the number of different dictionaries users can create. These dictionaries can be made as a byproduct of proofreading, by "adding together" two dictionaries, or by "subtracting dictionaries". Adding or subtracting dictionaries is the essence of the dictionary management function.

SPELLGUARD also comes with a 20,000 word dictionary called LARGE.DIC.

Dictionary Management Functions

SPELLGUARD's dictionary management capabilities have been designed to be as general as possible since one cannot anticipate all possible future uses of these dictionary management tools. Some of the possible uses include:

- building an index for a technical publication,

- evaluating word usage, and

- writing a document that contains only a preselected vocabulary.
  Additional uses will appear as creative users learn to take full advantage of these powerful *SPELLGUARD* features.

Six dictionary management commands have been provided in addition to the proofreading feature for automatically adding a word. These five commands allow the user to:

- combine two dictionaries to form a new dictionary which contains words in both dictionaries,

- subtract one dictionary from another dictionary to form a third dictionary containing words unique to the first dictionary,

- copy a dictionary,

- list of all the words (or a specified group of words) in a particular dictionary, and

- reorganize a dictionary (an automatic function in *SPELLGUARD* that can be invoked manually here)

- delete a word from a dictionary

The example on the next page illustrates how a user enters the Dictionary Management Options from the Master Menu.

Example of Dictionary Management

```
MASTER MENU (List of things you can do)

PRESS         IN ORDER TO
--------      ------------------
1 or P        PROOF spelling in a text file
2 or A        ALTER Default-Tables (#1 STANDARD)
3 or R        REORGANIZE AND EXAMINE dictionary(s)
4 or C        CHANGE from "EXPERT" to "BEGINNER"
5 or ?        HELP - show user instructions
6 or X        EXIT from SPELLGUARD

Press Number or Letter → R                                    [1]
```

---------------------------- new screen ----------------------------

```
Menu of actions for REORGANIZING DICTIONARIES

PRESS         IN ORDER TO
--------      ------------------
1 or L        LIST words in a Dictionary
2 or C        COMBINE two Dictionaries
3 or S        SUBTRACT two Dictionaries
4 or R        REORGANIZE a Dictionary
5 or M        MAKE a copy of a Dictionary
6 or D        DELETE words from a dictionary
7 or ?        HELP - show instructions
8 or X        EXIT, return to MASTER MENU

— Press Number or Letter →                                    [2]
```

[1] The user selects the dictionary management features from the Master Menu.

[2] The six dictionary management commands plus HELP and EXIT all appear in the list of options for dictionary management. Each command will be briefly discussed below and an example of each will be given later in this section.

LIST   This option allows the user to list all or part of the words in a dictionary. The words are listed in alphabetical order, and can be printed on the user's printer or on the CRT screen. The user can stop and start the listing.

COMBINE   This option allows the user to add together two dictionaries to form a third, new dictionary. The new dictionary will have all of the unique words that are in the two parent dictionaries. The new dictionary, though, will probably not have as many words as both dictionaries combined because some words may be duplicated in both dictionaries.

SUBTRACT   This option allows the user to "subtract" the words of one dictionary from the words of another dictionary and put the result in a third dictionary. The third dictionary would contain words that were in the first dictionary but not the second. This command has the effect of eliminating the words unique to the second dictionary from the first dictionary.

REORGANIZE   This option forces *SPELLGUARD* to reorganize a dictionary. The typical dictionary will need to be reorganized whenever about 250 new words have been added. This reorganization will occur automatically. The REORGANIZE option allows the user to force a dictionary reorganization. Whenever a dictionary is reorganized, *SPELLGUARD* makes internal checks to be sure that computer errors have not damaged the file.

                          Users typically do not need to reorganize dictionaries. This is done automatically when required.

MAKE   This option allows the user to make a copy of a dictionary. Backup copies of all dictionaries should always be maintained. The Copy Dictionary option should be used in preference to the CP/M program PIP.COM because *SPELLGUARD* makes more economical use of disk storage, which may be at a premium in diskettes with large dictionaries. See Appendix B for technical details.

DELETE   This option allows the user to delete a word from a dictionary.

HELP   This option provides the uncertain user additional information on what to do next.

EXIT   This option returns the user to the Master Menu.

3.2.a. List Words Option

This option provides a complete or partial listing of all the words in a specified dictionary.

The example continues . . .

> Menu of actions for REORGANIZING DICTIONARIES
> [See page 3-13 for an example of menu]
>
> Press Number or Letter →**L**   [3]

------------------------------ new screen ------------------------------

> LISTING OF WORDS IN A DICTIONARY
>
> (Name of dictionary in currently active Default-Table is SP.DIC)
>
> What is the name of the DICTIONARY?
>
> Type name, press RETURN to EXIT →**SP.DIC**   [4]
>
> Dictionary File: File "SP.DIC" (10,000 words)
>
> You may now enter two words. The program will type words in the dictionary between and including those words.
>
> You may EXIT the listing any time by typing X, or may START AND STOP listing by typing ANY OTHER KEY.   [5]
>
> What is the FIRST WORD?
>
> Type WORD, press RETURN to EXIT →**BUILD**   [6]
>
> What is the SECOND WORD?
>
> Type WORD, press RETURN to EXIT →**CAME**   [7]
>
> Do you want a copy on the printer?
>
> — Press Y (yes), N (no), or RETURN key (exit) →**N**   [8]

------------------------------ new screen ------------------------------

Press X to EXIT
ANY OTHER KEY to start/stop listing → **K**

(Words being located.)

BUILD BUILDER BUILDERS BUILDING BUILDINGS BUILDS BUILDUP BUILT
BUILT-IN BULB BULBS

[3] The user desires to list a portion of the words in the dictionary SP.DIC. From the Dictionary Reorganization Menu of Actions, the user selects the first option by pressing the L key.

[4] *SPELLGUARD* requires the name of the dictionary from which the words will be listed. The user indicates that the dictionary is SP.DIC. *SPELLGUARD* finds this dictionary and tells the user the number of words in it. It should be noted that the Default-Table does NOT specify the dictionary to be used with The Dictionary Reorganization commands. The Default-Table only applies to proofreading.

Note that *SPELLGUARD* may need to reorganize the dictionary at this point. All this is done automatically. The user need not be concerned with any details. *SPELLGUARD* reorganizes a dictionary without using scratch or temporary files, so the user need not be concerned about overfilling available diskette storage.

[5] The listing of words can be stopped and started by pressing any key except the letter "X". Pressing the "X" causes the computer to stop the listing function and return to the "Menu of Actions for Reorganizing Dictionaries."

[6] The program asks the user to input the first word to be listed as well as the last word in the list. The user must press the Return Key after each word, since this is a response of more than one character.

If the user does not know the exact first or last word, a range can be given. Giving "A" as the first word, and "ZZZ" as the last word, would cause all words in the dictionary to be listed.

[7] The user types in the word "build" as the first word and the word "came" as the last word so only a portion of the dictionary will be printed.

[8] The program will want to know whether the user desires to have a hard copy output of the list. If the user responds with a Y, the computer will list out the words on the user's printer.

The program will then proceed to list out the dictionary words.

When the list is finished, the program will return the user to the Reorganize Dictionary Option List.

3.2.b. The Combine Dictionaries Option

This option provides the capability to add together two dictionaries to form a new, third dictionary.

The example continues . . .

Menu of actions for REORGANIZING DICTIONARIES

[See earlier list of options.]

—Press Number or Letter→**C**   [9]

------------------------------ new screen ------------------------------

---

DICTIONARY COMBINATION * * * * * * * * *

(Name of dictionary in currently active Default-Table is SP.DIC)   [10]

What is the FIRST DICTIONARY?

Type name, press RETURN to EXIT → **SAM.DIC**   [11]

Dictionary File: File "SAM.DIC" (1000 words)

What is the SECOND DICTIONARY?

Type name, press RETURN to EXIT → **B:JERRY.DIC**   [12]

Dictionary File: File "B:JERRY.DIC" (500 words)

What is the NEW, COMBINED DICTIONARY NAME?

Type name, press RETURN to EXIT → **B:COMB.DIC**   [13]

Dictionary File: File "B:COMB.DIC"

---------------------------- new screen ----------------------------

> Making Dictionary File "B:COMB.DIC" by adding Dictionary File
> "B:JERRY.DIC" to Dictionary File "SAM.DIC"
>
> Words So Far
> ---------------
> 1,500
>
> DICTIONARY FINISHED
>
> — Press any key to continue →

[14]

[15]

[9] The user selects the "COMBINE two dictionaries" option in order to create a new dictionary which contains the combined unique words in two other dictionaries.

[10] *SPELLGUARD* tells the user the name of the currently active dictionary.

[11] The user specifies the first dictionary which will be added as SAM.DIC. Remember to use CP/M naming convention.

[12] The user specifies the second dictionary to be JERRY.DIC which is on the B disk drive.

[13] The program requires the name of the new dictionary to be created. This dictionary must not previously exist. This dictionary can be created on the same disk drive as *SPELLGUARD* or it can be on another drive.

[14] Once *SPELLGUARD* has the names of the two dictionaries to combine, it begins forming the new dictionary. This new dictionary will have all of the words that are in both of the first two dictionaries. No word, though, will appear twice. The program keeps the user informed of its progress by printing the number of words that have been formed in the new dictionary so far. When the program has completed combining the two dictionaries, the total number of words shown will be equal to the number of words in the dictionary. In this example, the new dictionary COMB.DIC has 1,500 words.

[15] By pressing any key, the program will return to the option list on the Reorganize Dictionary Menu.

3.2.c. The Subtract Dictionaries Option

This option allows the user to subtract the words in one dictionary from the words in another dictionary. The result will be a new dictionary which contains all of the words in the first dictionary which are not in the second dictionary.

The example continues . . .

Menu of actions for REORGANIZING DICTIONARIES

[See earlier list of options.]

—Press Number or Letter→**S**   [16]

------------------------------ new screen ------------------------------

DICTIONARY SUBTRACTION * * * * * * * * *

(Name of dictionary in currently active Default-Table is SP.DIC)   [17]

What is the DICTIONARY with the full list of words?

Type name, press RETURN to EXIT → **SP.DIC**   [18]

Dictionary File: "SP.DIC" (10,500 words)

What is the DICTIONARY file with the words to be removed?

Type name, press RETURN to EXIT → **BADWORD.DIC**   [19]

Dictionary File: "BADWORD.DIC" (30 words)

What is the name of the NEW, REDUCED FILE?

Type name, press RETURN to EXIT → **REDUCE.DIC**   [20]

Dictionary File: File "REDUCE.DIC"

------------------------------ new screen ------------------------------

Making Dictionary File "REDUCE.DIC" by subtracting Dictionary File
"BADWORD.DIC" from Dictionary File "SP.DIC"

Words So Far

   10,470   [21]

DICTIONARY FINISHED
— Press any key to continue →   [22]

---

[16] To create a new dictionary which contains words that are in the first dictionary but not in the second dictionary, the user should select the subtract option on the Reorganize Dictionary Menu. This is the third option on this menu.

[17] *SPELLGUARD* tells the user the name of the currently active dictionary.

[18] The program requires that the user enter the name of the first dictionary that will be used to form the new dictionary. In this case, the user indicated SP.DIC is to be that dictionary.

[19] The dictionary which is to be subtracted from SP.DIC, is BADWORD.DIC. This might be a dictionary of words that are misspelled in SP.DIC, obscure terms which will never be used again, and other words the user wishes to remove from SP.DIC. The second dictionary can be on the same disk drive as *SPELLGUARD* or on another disk drive. By subtracting BADWORD-.DIC from SP.DIC, the user is removing from SP.DIC all the words that are in BADWORD.DIC.

[20] The program requires the name of the new dictionary to be created. This dictionary must not previously exist. It must be a new dictionary.

[21] Once *SPELLGUARD* has the names of the two dictionaries, it begins forming the new dictionary. This new dictionary will have all of the words that are in the first dictionary minus those in the second.

This is a powerful dictionary maintenance feature. In this example, the second dictionary has a list of misspelled words that accidentally had been made a part of the first dictionary; subtracting the misspelled words from the original dictionary produces a dictionary with the misspelled words removed.

The program keeps the user informed of its progress by printing the number of words that have been formed in the new dictionary so far. When the program has completed subtracting the second dictionary from the first, the total number of words shown will be equal to the number of words in the dictionary. In this example, the new dictionary REDUCE.DIC has 10,470 words.

[22] By pressing any key, the program will return to the option list on the Reorganize Dictionary Menu.

3.2.d. The Make a Copy of a Dictionary Option

This option allows the user to make an exact copy of the currently active dictionary.

3.2.d

The example continues . . .

> Menu of actions for REORGANIZING DICTIONARIES
> (See earlier list of options.)
>
> —Press Number or Letter→ **M**   [23]

------------------------------ new screen ------------------------------

> MAKE BACKUP COPY OF DICTIONARY * * * * * * * * * *
>
> (Name of dictionary in currently active Default-Table is SP.DIC)   [24]
>
> What is the name of the DICTIONARY?
>
> Type name, press RETURN to EXIT → **SP.DIC**   [25]
>
> Dictionary File: File "SP.DIC" (10,000 words)
>
> What is the NAME for the BACKUP COPY?
>
> Type name, press RETURN to EXIT → **B:SP.CPY**   [26]
>
> NUMBER OF 128 BYTE   * *   DO NOT   * *
>   RECORDS COPIED   * *   INTERRUPT   * *
> ------------------------------   [27]
>   200
>
> COPY IS COMPLETE   [28]
> — Press any key to continue→

[23] The user desires to make a backup copy of the currently active dictionary. Making an extra copy of important files is a good practice when using computers. If one copy gets accidentally destroyed, all is not lost. To make a backup copy, the user selects the fifth option from the Reorganize Dictionary list of options.

[24] The computer responds by identifying the currently active Default-Table and the currently active dictionary on that Default-Table.

[25] The user here is indicating that the dictionary to be copied is called SP.DIC. This could be any dictionary, not necessarily the one in the Default-Table.

[26] The user indicates that the backup copy will be called SP.CPY and will be put on the diskette in disk drive B.

[27] The program will keep the user informed of its progress in the process of copying a dictionary by telling the user how many 128 byte sectors it has copied.

[28] The copy is completed. In case of such errors as insufficient disk storage space, *SPELL-GUARD* will print an appropriate error message. When the user presses any key, the program will return to the list of options on the Reorganize Dictionary Menu.

3.2.e. How To Delete Unwanted Words in a Dictionary

Individual words may be deleted from a dictionary using option 6 from the Reorganize Dictionary Menu. *SPELLGUARD* will ask you for the name of the dictionary, and then the word to be deleted.

If you want to remove more than a few words, we suggest that you use the Subtract Option. This method requires use of the more advanced *SPELLGUARD* features, and should be done by someone familiar with *SPELLGUARD*. Word processing staff should note what incorrect words have entered the dictionary, then these words should be removed at one time using the following steps:

1. Determine the words in the dictionary that should be removed. The LIST option in the Dictionary Reorganization and Examine Menu might be used to list a dictionary in order to find these words.

   NOTE: The user can, at any time, subtract the original SP.DIC dictionary from the current dictionary. This will result in a third dictionary which will contain all the newly added words.

2. Use a word processor to prepare a document which contains only the words to be removed. This document is just a list of words which are misspelled so they appear exactly as the bad words in the dictionary. They may, though, be entered either as upper or lower case.

3. Proofread this "document" with *SPELLGUARD*, and specify a new, empty dictionary. This can be done by going to Default-Table #2, or any Default-Table which has an asterisk for the Dictionary File slot. After the file with the words to be deleted is proofread, respond to the request for a dictionary name with a new name, for example, BADWORD.DIC.

4. Add all of the mismatched words to the new dictionary using the ADD ALL option in the Special Word Review. The user now has a dictionary which contains all of the words to be removed from the regular dictionary (BADWORD.DIC).

5. Return to the Master Menu, and select the Reorganize Dictionary Option. See Chapter 3.4.c for an example of the dictionary subtraction with a dictionary which has bad words.

6. From the Reorganize Dictionary Menu, select the SUBTRACT Dictionaries option.

7. The regular dictionary is specified as the first dictionary.

8. The dictionary that contains the words that should be removed from the regular dictionary is specified as the second dictionary.

9. The new, third dictionary will contain the regular dictionary with the desired words removed.

3.2.f. The Need For Personalized Dictionaries

One might think that having an extremely large dictionary with many words is preferable to having a small one. However, it is not clear that this is the case for two reasons: (1) accuracy of proofreading, and (2) efficiency of proofreading.

(1) A very large dictionary can reduce the effectiveness of proofreading. A word may be typed incorrectly and by chance be the same in its incorrect form as another word in the dictionary which is seldom used. This would be proofread by *SPELLGUARD* as correct because it is in the dictionary. There is less chance of this happening with a smaller dictionary.

(2) The speed at which *SPELLGUARD* proofreads depends upon the size of the dictionary. Doubling the size of the dictionary will, for most small files, double the proofreading time and almost double it for large documents.

Individuals differ considerably in the words they use. For example, two different people may each have a 15,000-word written vocabulary. The total number of unique words used by these two people will be somewhere between 15,000 and 30,000. If they are using exactly the same vocabulary, there will be 15,000 words in the dictionary required to proofread their correspondence. If they have totally different vocabulary, they will need a 30,000 word dictionary. The total dictionary size is somewhere in between.

SPELLGUARD has been made flexible enough so that either dictionary organization approach is possible - one huge dictionary or smaller customized dictionaries.

CHAPTER 4. SOFTWARE MAINTENANCE FOR *SPELLGUARD*

Summary of Chapter: This section describes the use of the computer program MAINTAIN .COM, which is used to ensure that the *SPELLGUARD* package is operating correctly. MAIN-TAIN is a pioneering effort of SORCIM to bring users of mass-market software cost effective service. This Chapter is a user's guide to each of MAINTAIN's two components, VERIFY and REVISE. Casual users need not read this chapter. These features may never be used, but if they are, the individual with overall computer responsibility should oversee the procedures.

Providing Maintenance Support To Users

Support for computer software has been lacking with most microcomputing software. Micro-computer users have had no way to determine if copies of programs they have purchased have been damaged through disk copying, improper diskette handling, etc. There is currently no known way to say with assurance a program is running correctly. Nor have they had an easy and reliable method of making changes in the original program. Making changes in micro-computing programs has typically required considerable technical expertise.

SORCIM provides *SPELLGUARD* owners with a maintenance program as part of the *SPELL-GUARD* package. This maintenance program, called MAINTAIN.COM, contains two powerful features. The first is called VERIFY. This feature determines if the current copy of *SPELL-GUARD* being used has been damaged. The second feature, called REVISE, allows the user to make revisions in the original program using a special factory supplied code. The REVISE feature allows even non-technical users to reliably make changes in their program.

Note that the maintenance applies only to the computer programs: SP.COM, SP.OVL, and MAINTAIN.COM. It does not apply to data files, e.g., SP.DIC. However, the dictionary files are checked for consistency by *SPELLGUARD* everytime they are reorganized.

Running the Maintain Program

To run the MAINTAIN program, the user needs to exit *SPELLGUARD* and make sure disk 2 has been inserted in drive A. Then type the word MAINTAIN. When this program is run, the user will see the following message displayed:

```
                    Maintain (tm)
                    Version 1.0
                    Osborne Computer




                    Copyright 1982
                    SORCIM CORP.
                    Santa Clara, CA.


— Press any key to start →
```

------------------------------ new screen ------------------------------

```
MENU FOR MAINTAIN (List of things you can do)

PRESS           IN ORDER TO
-------         -----------------
V               VERIFY a program bought from SORCIM
R               REVISE a program (requires a Revision Sheet)
S               SHOW remedies for damaged programs
H               HELP — show user instructions
X               EXIT this program and return to CP/M

*** A memory test is being run, please wait. ***
*** Your memory passed this test with no errors ***

— Press Number or Letter →
```

4.1. Determine Whether *SPELLGUARD* Is Running Properly (The Verify Feature of MAINTAIN.COM)

Purpose of This Section: This section discusses why the VERIFY feature was designed, and how to use it.

Finding Errors in Disk Copy of Programs

When programs do not function properly, there are at least three possible sources of error. First, the problem could be in the computer hardware. Second, the problem could be a "bug" or error in the program itself. And finally, the problem could be accidental damage to the specific copy of the program being run. Of the three problems, the final one can be extremely troublesome because of confusion with the first two. When something goes wrong, the user does not know where to look for errors.

Magnetic disks have certain vulnerabilities and are prone to having errors introduced into a program without the user's knowledge. Some of the ways errors can be introduced onto floppy disks include:

- turning off the computer with a floppy disk in the disk drive. This may cause a random "write" to the diskette. If the "write" occurs in an unused part of the disk, there will be no problems. But, if the "write" occurs over a program, it is possible that part of the program will be changed. It may not run correctly again.

- interference from other electrical appliances during disk operations. A small electrical appliance (e.g., a blender) operating on the same electrical circuit can sometimes cause havoc. Some computer systems are more prone to this interference than others.

- power line fluctuations. Even though power line voltages in the U S. are quite steady compared to some other countries, there sometimes is a sudden fluctuation that can introduce random errors if the fluctuation occurs during a disk operation.

- memory chips may fail and cause damage to files before the problem is corrected.

- bad software may cause damage to files.

For these reasons and others, SORCIM decided that the user needed a reliable way of determining if the copy of *SPELLGUARD* being used was properly running. The VERIFY option accomplishes this task.

The Verify Feature of MAINTAIN.COM

The VERIFY feature can accurately determine if any *SPELLGUARD* program has been damaged. VERIFY includes sophisticated error checking procedures. If there is a random error in a *SPELLGUARD* program, there is less than one chance in one billion that VERIFY will fail to detect it. If VERIFY indicates that the copy of *SPELLGUARD* is functioning properly, and there is still an apparent malfunction, it may be attributed to either an inherent flaw in the program or to the computer equipment.

SPELLGUARD is the only microcomputing product we know of which is equipped with this self-checking feature.

How to Use Verify

1. Run the MAINTAIN.COM program from the CP/M A prompt by placing disk 2 in drive A, pressing ^C, and typing MAINTAIN.

2. Select the VERIFY option by typing the letter V.

The example shows how this feature is used.

CAUTION: If the user makes any modifications to the program other than in the areas outlined in Appendix B, the VERIFY and REVISE features will not function.

Example of the VERIFY feature in MAINTAIN.COM

A>MAINTAIN   [1]

```
                                                                             [2]
                            Maintain (tm)
                            Version 1.0
                          Osborne Computer




                            Copyright 1982
                            SORCIM CORP.
                           Santa Clara, CA.




    — Press any key to start →
```

-------------------------------- new screen --------------------------------

```
    MENU FOR MAINTAIN (List of things you can do)                            [3]


    PRESS              IN ORDER TO
    ------             ------------
    V                  VERIFY a program bought from SORCIM
    R                  REVISE a program (requires a Revision Sheet)
    S                  SHOW remedies for damaged programs
    H                  HELP — show user instructions
    X                  EXIT this program and return to CP/M

    *** A memory test is being run, please wait. ***
    *** Your memory passed this test with no errors ***

    — Press Number of Letter →V
                                                                             [4]
```

```
-------------------------------- new screen --------------------------------
```

```
What is the NAME of the file for VALIDATION?

Type file name, press RETURN to EXIT → B:SP.COM                          [5]
```

```
-------------------------------- new screen --------------------------------
```

```
MAINTAIN is checking File "B:SP.COM" for errors                         [6]

*********************************************
*********************************************

Revisions have been made to this file in the following order:           [7]

ADCE

*** File "B:SP.COM" has NO ERRORS ***                                    [8]

— Press any key to continue →                                           [9]
```

[1] The user runs the program MAINTAIN.COM which is on the A disk drive by typing MAINTAIN.

[2] MAINTAIN begins by giving the SORCIM copyright notice.

[3] The menu of actions for MAINTAIN is displayed.

[4] The user selects the VERIFY option by pressing the V key. MAINTAIN.COM runs a superficial test of RAM (main memory) from address 176H to the end of the Transient Program Area. If a memory location is found to be bad, MAINTAIN.COM will print its address.

[5] The user must indicate which of the *SPELLGUARD* programs should be verified (SP.COM, SP.OVL, or MAINTAIN.COM). VERIFY can not be used with the *SPELLGUARD* dictionaries. However, note that dictionaries are themselves checked for internal consistency whenever they are reorganized.

[6] After the user gives VERIFY the name of the program to check, the error-checking procedure is begun. As each section of the program has been read, the computer will type an asterisk. This lets the user follow the program's progress.

[7] VERIFY tells the user the previous revisions. The revision listed was performed by SORCIM. If the user had made revisions, these would be listed as well.

[8] When the program has finished checking for errors, it will tell the user if the copy is free of errors. In this example the copy did not have any errors.

[9] The user is asked to press any key. When a key is pressed, the program returns to the list of options on the MAINTAIN Master Menu. The user may then have another program validated by pressing the V key again, or may return to CP/M by pressing the X key.

If errors were found, the computer would print the likely causes for these problems, and things the user might do to correct them. These instructions can be seen at any time by pressing the S key and thereby selecting the menu's SHOW option.

CAUTION: If you make any modifications to the programs other than in the areas outlined in Appendix B, the VERIFY and REVISE features will not work.

4.2. Making Osborne Authorized Modifications To SPELLGUARD (The Revise Option of MAINTAIN.COM)

Purpose of This Section: This section provides an introduction to the SPELLGUARD option that allows the user to modify the original SPELLGUARD program using a special code supplied by Osborne. No special programming knowledge is required for this interactive program, but all program revisions should be handled with care.

What is Revise?

Another troublesome area in the microcomputing industry is the problem of providing customers with updates and upgrades to the original program. This is difficult to do in a cost effective fashion for software that costs only a few hundred dollars, except in the case where the users are so technically knowledgeable that they can use complicated system development software and understand assembly language patches. Even then, one small mistake can ruin the program.

SORCIM is pioneering an approach to solving the revision problem by providing a special program that allows non-technical users to make changes in the original SPELLGUARD program. This is done by using a specialized code provided by Osborne. Not only can nontechnical users make the changes, but the possibility of inadvertent typographical errors is thoroughly checked.

How Does Revise Work?

If it becomes necessary to make minor revisions to SPELLGUARD, Osborne will send each registered SPELLGUARD owner a code sheet which contains the necessary modifications.

The Hard Copy Revision Sheet provided to customers is not a list of computer instructions, but a special code that is only meaningful to the REVISE program. A sample code sheet is shown below.

Example of an Osborne Hard Copy Revision Sheet

Revision Code Reference Number: ABEI

Line 1: CNA AAB AAA KBA BOF KLC
Line 2: AOA CMN AFA AAD AAA EMN
Line 3: X

The REVISE program will prompt the user for each line of input, one line at a time. Each line of code contains selfchecks which aid in guarding against typographical errors.

Because the REVISE program takes users through the revision process one step at a time, revisions can be made by personnel with no special technical knowledge.

The Hard Copy Revision Sheet shown above, and in the example on the next few pages, are illustrations only, and should not actually be used with REVISE. Further, the REVISE function is not a feature that should be accessible to the casual program user. REVISE should only be performed by the individual responsible for total system operation. Even with the program's internal self-checks, care must be used when making revisions using the Hard Copy Revision Sheets. It is vitally important that REVISE only be used with factory generated Hard Copy Revision Sheets, and that these revision sheets be carefully followed.

Before using REVISE, a backup copy of the unrevised, old file should be made. This is the backup protection the user might need if mistakes are made during revision. This backup copy can be used to recover from such a mistake. It is also a good practice to keep all Hard Copy Revision Sheets.

How To Use REVISE

1. Make an extra backup copy of *SPELLGUARD* programs.

2. Run the MAINTAIN program by typing MAINTAIN.

3. Select the REVISE option by typing R.

4. Follow the instructions presented by the computer.

NOTE: Do not run REVISE unless you have a factory supplied Hard Copy Revision Sheet from Osborne.

CAUTION: If you make any modifications to the program other than in the areas outlined in Appendix B, the VERIFY and REVISE features will not work.

An example of the REVISE feature of MAINTAIN.COM appears on the following page.

Example of the REVISE option in MAINTAIN.COM
A>MAINTAIN   **[1]**

```
                          Maintain (tm)                               [2]
                          Version 1.0
                         Osborne Computer



                          Copyright 1982
                          SORCIM CORP.
                         Santa Clara, CA.


  — Press any key to start →
```

---------------------------- new screen ----------------------------

```
  MENU FOR MAINTAIN (List of things you can do)                      [3]

  PRESS            IN ORDER TO
  -------          -----------
  V                VERIFY a program bought from SORCIM
  R                REVISE a program (requires a Revision Sheet) ·
  S                SHOW remedies for damaged programs
  H                HELP — show user instructions
  X                EXIT this program and return to CP/M

  *** A memory test is being run, please wait. ***
  *** Your memory passed this test with no errors ***

  — Press Number or Letter →R                                        [4]
```

---------------------------- new screen ----------------------------

```
  What is the NAME of the file for REVISION?                         [5]
  Type file name, press RETURN to EXIT →B:SP.COM                     [6]
```

------------------------------ new screen ------------------------------

MAINTAIN is checking File "B:SP.COM" for errors   [7]

* *

* *

Revisions have been made to this file in the following order:

ADCE

*** File "B:SP.COM" has NO ERRORS ***   [9]

— Press any key to continue → **E**   [10]

------------------------------ new screen ------------------------------

You should have a SORCIM HARD COPY REVISION SHEET. Please type the
revision carefully. There are internal checks to find possible typos, but take
care. MAINTAIN will only revise a program when all revisions have been typed
correctly. ·

Type the Revision Code, press Return to EXIT→**ABEI**   [11]

Your Input: ABEI

— Is this correct? Press Y for Yes, N for No → **Y**   [12]

[1] The user runs the program MAINTAIN.COM which is on the currently logged disk drive by
typing MAINTAIN.

[2] MAINTAIN begins by printing SORCIM's copyright notice.

[3] The menu of actions for MAINTAIN is displayed and the memory test is run to be sure there
are no obvious hardware problems.

[4] The user selects the REVISE option by pressing the R key.

[5] The program asks the user for the name of the program to revise. Only the programs
SP.COM, SP.OVL, and MAINTAIN.COM can be revised. Only Osborne authorized Hard Copy
Revision Sheets can be used for revisions.

[6] Assuming the user has received a Hard Copy Revision sheet for the program SP.COM, the
user enters this program file name.

[7] Before revisions can be made in a file, the program must verify that there are no errors in the file. This process follows the steps for VERIFY.

[8] VERIFY tells the user the previous revisions. The revision listed was performed by SOR-CIM. If the user had made revisions, these would be listed as well.

[9] When the user presses any key, MAINTAIN will be ready to accept the revision information.

[10] Upon determining that there are no errors in the file, the program provides some basic information about revising the program. The program is now ready for the user to enter the revisions.

[11] The computer instructs the user to enter the Revision Code Reference Number. This number is printed at the top of the Hard Copy Revision Sheet. The program makes certain checks on this reference number to determine if it is correct. This code must match a code built into the program to be sure that the user does not inadvertently change the wrong program. If the program will not accept a Revision Code Reference Number, contact your dealer.

[12] Following each user input, the program will retype the input and ask the user if this is correct. If the user indicates that the input is correct, the program will go to the next step. If the user says the input is incorrect, the program will let the user re-input the information.

The example of the REVISE option of MAINTAIN continues . . .

Please type Line Number 1 or Return Key to EXIT.

Line Number 1: →**CNA AAB AAA KBA BOF KLC**
Your input: CNA AAB AAA KBA BOF KLC   [13]
— Is this correct? Press Y for Yes, N for NO →**Y**   [14]

Line #2: → **AOA CMN AFA AAD AAA EMN**
Your Input: AOA CMN AFA AAD AAA EMN
— Is this correct? Press Y for Yes, N for NO →**Y**

Line #3: → **X**
Your Input: X
— Is this correct? Press Y for Yes, N for NO →**Y**   [15]

The revision is being processed.

****
****
****
****

REVISION is COMPLETED.

— Press any KEY to continue →   [16]

---

[13] The program now asks the user to input the first line of code. Each code line contains information that will allow the computer to determine if there have been errors in typing the line. The code can be typed in groups of three characters, or all at once with no spaces. Typing in groups of three letters is easiest for most people.

[14] The user input is echoed back so that the user can determine if they have made a typing error. Once the user indicates that the line is correct, MAINTAIN will check it to see if it can find any errors. If an error is found, the user will have the opportunity to re-enter the line.

NOTE: The user can abandon the revision process and return to the MAINTAIN Master Menu at any time by pressing the Return Key before any letters have been typed.

[15] The user continues until all of the lines on the Hard Copy Revision Sheet have been entered. At that point, it will make the necessary revisions in the *SPELLGUARD* program. MAINTAIN keeps the user informed of revision progress by typing an asterisk as each program record is changed.

[16] When MAINTAIN has finished revising the *SPELLGUARD* program, it tells the user how to make backup copies (not shown here). It is important that all revised copies of *SPELLGUARD* be clearly labelled so that another user can determine what revisions have been made to a particular copy. Keeping the Hard Copy Revision Sheets is also important, as is keeping a copy of the original unrevised program.

To avoid confusion, many users will find it best to destroy old copies of *SPELLGUARD* a few weeks after the revision has been made. The old copies, though, should be maintained at least until the user is certain that the revisions have been made correctly, and that no errors have been introduced to the program.

Never Destroy The Original Distributed Copy of *SPELLGUARD*.

SPELLGUARD has built-in features to prevent confusion. MAINTAIN determines during verification what revisions have been made to the program file. When a file is verified, the program will list the Revision Reference Number for each revision made to the original program in the same order as the revisions were made.

APPENDIX A. HINTS FOR EFFECTIVE USE OF *SPELLGUARD*

Purpose of This Appendix: This Appendix provides some tips for getting the most out of a *SPELLGUARD* system. Most of these tips will make sense only after using the program. Users may obtain full product capability without this chapter; however, the users of microcomputers include many experts who always want the maximum possible computer performance.

Tip Index

Tip #1: Techniques for Making a Copy of a Dictionary so *SPELLGUARD* will Run Faster.

Tip #2: Specifying the Proofreading File When the Program is First Run.

Tip #3: Files Longer than 65,535 words.

Tip #4: Care when Adding Words to Dictionary

Tip #5: Words Containing Hyphens

Tip #6: Proofreading Accuracy

Tip #7: Identifying "Bad" Words in Dictionary.

Tip #8: What is a *SPELLGUARD* word?

Tip #1: Techniques for Making a Copy of a Dictionary So *SPELLGUARD* will Run Faster.

SPELLGUARD will run fastest when a dictionary is copied using PIP onto a freshly formatted CP/M disk. This means that the dictionary will be the first file copied to that disk. Technically, this ensures that the disk spaces allotted to the dictionary are next to each other (contiguous). Contiguous data will ensure that the program will be able to find the words it needs with a minimum of movement of the disk head to search the dictionary file.

Tip #2: Specifying the Proofreading Text File when the Program is First Run.

The user can tell the program which text file to proofread by typing **SP** <**FILENAME**> when the program is run. Inserting the name of the document to be proofread for <FILENAME>

will cause this document to be proofread. The Master Menu will not be displayed and the program will immediately begin proofreading the document. This assumes, obviously, that a dictionary has been specified in the Default-Table. If no dictionary was specified, the program will ask for the dictionary name before beginning to proofread.

Tip #3: Files Longer than 65,535 Words.

SPELLGUARD is designed to handle dictionaries with more than 65,535 words. The only trouble the user encounters with dictionaries larger than this size is that the word counter statistics will be incorrect. A dictionary with exactly 65,536 words will be shown to have 0 words. A dictionary with 65,537 words will be shown to have only 1 word.

Tip #4: Care when Adding Words to Dictionary.

Special care should always be taken when deciding to add mismatched words to the SPELL-GUARD dictionary. Mistakenly adding incorrect words to the dictionary will reduce the program's effectiveness. Note that incorrect words can be removed from the dictionary, see Chapter 3.2.e.

Tip #5: Words Containing Hyphens.

Words that end a line with a hyphen are treated differently by SPELLGUARD during the Word Review. Note that if the hyphenated word appears in the dictionary (with or without the hyphen), then it is ruled by SPELLGUARD to be correct and will not appear for word review.

If the word is not in the dictionary, then SPELLGUARD will tell the user that the word ended the line with a hyphen, and it will first present the user with the hyphenated word. The user is asked to evaluate this word as if it appeared in the middle of a line. The computer wants to know whether the hyphenated word form is correct, or whether the word only had a hyphen because it ended the line and is continued on the next line. If incorrect in the middle of the line, then SPELLGUARD will present the word with the unhyphenated form for review.

If, for example, the user decided to hyphenate the word pretend at the end of the line during Word Review the program would first try to find either the word PRE-TEND or the word PRETEND in its dictionary. Failing this, it would assume that both PRE-TEND and PRETEND are mismatched words. This is the reason the "countdown of words" on the Regular Word Review appears to "skip" certain numbers.

Appendix A

Tip #6: Proofreading Accuracy.

After proofreading with *SPELLGUARD*, the document can be assumed to be free of typographical errors and misspellings as long as five assumptions are met. The first assumption is that the document does not contain typographical errors that are real words. If the user typed "bat" instead of "cat", it is unlikely *SPELLGUARD* would find this error. This error is easy to find, though, because the sentence with this word no longer makes any sense.

The second assumption is that the dictionary used is free of errors. The SP.DIC *SPELLGUARD* dictionary contains approximately 10,000 words and great pains have been taken to ensure that this dictionary has no spelling errors. Care should be taken to make sure misspelled words are not accidentally added. A good practice is to have a dictionary or word finder (a dictionary with words, but no definitions) handy during the Regular Word Review. Some errors can be subtle. Using a dictionary to look up words during word review is not difficult because *SPELLGUARD* has put these words in alphabetical order, and they are listed one word at a time. If you do make a mistake and add misspelled words to the dictionary, you can remove them by using the Dictionary Management routines described in Chapter 3.2.e.

The third assumption concerns the use of hyphenated words at the end of lines and the use of apostrophes in the text. Considerable time has been spent devising procedures which will handle apostrophes and hyphens. The use of ('s) is always allowed at the end of every word. Other than this one case, hyphens and apostrophes are treated as real characters, the same way they are in dictionaries. Hyphens have been discussed above.

The fourth assumption is that words are 42 or fewer characters in length. Any consecutive letter combinations longer than 42 characters will be ignored during proofreading. The user is alerted by a special message whenever long character combinations appear.

The fifth assumption is that the lower case and upper case versions of words are correct. The *SPELLGUARD* dictionary is upper case only.

None of the foregoing discussion can be interpreted to mean that *SPELLGUARD* eliminates the need for proofreading. Proofreading is required to make sure the document makes sense, has proper grammatical structure, verb tense, etc. However, after a document has been proofread by *SPELLGUARD*, it can be presumed to be without spelling and typographical errors except as mentioned above. The tedious task of finding these errors has been quickly performed, and the proofreader can use the time and effort saved to concentrate on the important tasks of checking for other types of errors and improving overall document quality.

Tip #7: Identifying Bad Words in the Dictionary

A "bad" word is any word that does not belong in the dictionary. Bad words may be misspellings entered by accident or infrequently used words. To determine if "bad" words are in a dictionary, follow the procedure outlined below:

When the original *SPELLGUARD* package is received, save a copy of the original dictionary. Give the dictionary a name such as ORIGINAL.DIC.

The words added to the original dictionary can always be found by subtracting this original dictionary from the current dictionary (see Chapter 3.2.c). The resulting dictionary will contain all newly added words.

These newly added words can be reviewed by listing them on a printer (see Chapter 3.2.a). A review of these words can be made and incorrect words or infrequent words identified.

The procedures outlined in Chapter 3.2.e would then be followed to actually remove these "bad" words from the dictionary.

Tip #8: What is a *SPELLGUARD* Word?

In the standard *SPELLGUARD* program, the end of a word is signalled when a space, a number or special character (e.g., $, #, ", etc.) is reached. If, for example, the word CUSTOMER9 was read by *SPELLGUARD*, only the first eight characters would form the word (e.g., CUSTOMER). Customized versions of *SPELLGUARD* which are especially designed for specific word processors do not have this problem.

APPENDIX B: TECHNICAL INFORMATION AND ERROR MESSAGES

Purpose of This Appendix: This section enumerates answers to technical questions about *SPELLGUARD*. It is designed for those who have expertise in microcomputers, not for casual users. There is also information here for anyone who wishes to customize the SP.COM program for a particular computer system.

1. Error Messages

Throughout the design and coding of *SPELLGUARD*, there were many (hundreds) of checks placed in the code to detect error conditions indicated by the CP/M operation system, (e.g., read a record from a file that is supposed to exist, to which CP/M responds that there is no such record), and control checks (e.g., location 345 should be a letter of the alphabet or a punctuation symbol, if it is not go to the error condition). Whenever one of these errors occurs, *SPELLGUARD* prints a message with two decimal numbers and a dashed number, e.g., "33,234 - 6,574-4") and stops whatever it is doing so no files are damaged or wrong results given. The numbers tell Osborne where the error occurred and what *SPELLGUARD* was doing.

If these errors occur, please contact your dealer with the error code, or even better with a diskette which we can use to reproduce the error. If these errors occur right after your purchase, it could mean there are some differences between your CP/M and standard versions of CP/M. This problem can often be corrected immediately. Please remember to run the VERIFY option of MAINTAIN to be sure that the *SPELLGUARD* programs are not damaged.

2. Making Patches to the SPELLGUARD programs

SPELLGUARD is designed to let you make only the following patch to the program. In file SP.COM, bytes 103H through 120H are reserved as a buffer that is printed whenever a CLEAR SCREEN is issued. This buffer in the original program contains 1 carriage return (0DH) and 28 line feeds (0AH) and is ended by a dollar sign (24H). Note that this clears the screen on almost any terminal. If your screen is longer than 28 lines this will not clear the screen from bottom to top. Also, some users may prefer the normal screen clear. You may patch in your screen clear characters starting in 103. Terminate these characters by a dollar sign to signify the end of the buffer.

For example, the Osborne 1 has a single character screen clear which is 1AH. The patch reads:

```
103H        1AH
104H        24H
```

It has already been performed on your copy of *SPELLGUARD*.

Please note that any patches to an area other than this one will invalidate the operation of the two features of MAINTAIN.COM, the VALIDATE and REVISE features. Please read your

license agreement carefully about making any changes that inhibit the printing of the copyright notice when the program is run. *SPELLGUARD* itself will not run if a change is made which alters this message. Further, SORCIM and Osborne Computer Corporation cannot maintain software that the user has changed.

If it becomes necessary to change any parts of the programs, Osborne can issue a Hard Copy Revision Sheet so the change will be made in such a fashion that all features still work.

Note that the Default-Table feature gives *SPELLGUARD* users at the applications level some capabilities that before were only possible by patching programs.

(3) Changing Names of SP.COM and SP.OVL

The names of the programs cannot be changed in any convenient fashion. Their overlay structure is complex and the names appear in several places throughout the code and are related to the functions of MAINTAIN.COM. Changing the names will prevent the MAINTAIN functions from working. Osborne cannot provide patches which allow users to change the names of the basic *SPELLGUARD* programs.

(4) Software Protection

SPELLGUARD will not run if the code is modified in such a fashion that the initial screen with the copyright and sales notice will not display properly. Beyond that there are no "dirty tricks"; however, the code is complex and interdependent and the license agreement does not allow disassembly and patching of SP.OVL. Many sections of SP.OVL have "fingerprints" built into the code and these can be used to determine that the code came from *SPELL-GUARD*. Also, changing any one part of the code may mean other parts do not work correctly.

(5) Read-Write and Read-Only Files

The file SP.OVL which has the overlays may be read-only. Dictionaries obviously must be accessible to *SPELLGUARD* write operations. The program SP.COM has a record with the Default-Tables that is written so they can be remembered from run to run. Thus SP.COM must be read-write available to *SPELLGUARD*.

(6) Dictionary Format

The format of the first dictionary record is as follows:

Bytes 0-10:	'SPELLGUARD '	;*SPELLGUARD* will refuse to use a file without these 11 ;bytes
Byte 11:	'A'	;This is a code for the form of dictionary organization. It ;is currently the only form allowed. All SORCIM releases ;will be able to read a dictionary in this form. SORCIM ;plans future forms of organization and this byte is for ;compatibility.
Bytes 12-105:	-anything-	;SORCIM places the *SPELLGUARD* copyright notice ;and an EOF here (1AH).

Bytes 106 - 127:   ;counters and pointers.

SORCIM has intentionally made it easy for others to create and place copyright notices in dictionaries produced by *SPELLGUARD*. Note that our license agreement gives users the full title to any such creations. For example, a user could build an engineering dictionary with *SPELLGUARD* and patch in a copyright notice in bytes 12-105 and sell this dictionary. Other bytes in the first record cannot be changed without interfering with the operation of *SPELLGUARD*.

(7) How to Proofread a Dictionary

The format and techniques used to access of a dictionary during proofreading is proprietary information of SORCIM; however, SORCIM will give the following partial description about dictionary organization so sophisticated technical users can derive the maximum benefit from *SPELLGUARD*.

After a dictionary is reorganized, it is in a simplified format. The organization deteriorates as words are added during proofreading, although the speed of proofreading is only affected by a few per cent. At various times, *SPELLGUARD* recognizes the need to reorganize dictionaries so that it operates at full capability and efficiency. This happens after approximately 250 words are added to the dictionary, although this interval can be as long as several thousand words under some circumstances.

The first part of the first record always holds the messages indicated above. After a reorganization, the dictionary is in a special form which can be used by technically proficient users. If the first record (128 bytes) is replaced by blanks (20H), then the dictionary will appear to *SPELLGUARD* as if it is a text file. Thus, a user can convert a dictionary which has just been reorganized into text file and proof it (the REORGANIZE action in Reorganize and Examine Dictionaries initiates automatic reorganization.) This is a useful option for someone building a dictionary who wishes to eliminate many words from an early draft. The usual procedure for word deletion would be to type the words for deletion into a text file and use the dictionary subtraction function. Note that this applies only to dictionaries in the standard format, 'A'. As explained above, all anticipated releases of *SPELLGUARD* will be able to handle files of format type 'A' and will be capable of converting any formats they use to type 'A'.

(8) How Does SPELLGUARD Work

We have been bombarded with questions about how *SPELLGUARD* achieves its amazing speed. The approach and algorithms are proprietary information of SORCIM and we can only say the following. *SPELLGUARD* is coded in 8080 assembly language, without which it would be impossible to achieve current performance. There is considerable processing done to the text through special data structures, prior to, during and after looking up words in the dictionary. Beyond this, we cannot say anything further that might help our competitors to catch up.

(9) How many SPELLGUARD programs are there?

The *SPELLGUARD* diskettes you received contain six separately named files. Three of these files are programs. Two are *SPELLGUARD* dictionaries, and another file is a sample document that contains misspelled words. If you list the directory (type DIR) on the supplied *SPELLGUARD* diskettes, you should see the following:

SP.COM
SP.OVL
SP.DIC
MAINTAIN.COM
LETTER.TEXT
LARGE.DIC

The function of each program file is discussed below:

(a) **SP.COM** This is the short master control program. It loads and begins running after the user types SP. It must be a read-write file, and must have this name. You may make limited patches to this program to adapt it to unusual terminal configurations (see item 2 above). This program must be on either the A disk drive or on the currently logged disk drive.

(b) **SP.OVL** This is the file containing most of the *SPELLGUARD* computer code. It may be a read-only or a read-write file and must have this name. It also must be either on the A disk drive or on the currently logged disk drive, but not necessarily on the same disk drive as SP.COM.

(c) **SP.DIC** This is the name of the dictionary supplied with *SPELLGUARD*. This dictionary initially contains about 10,000 words. This dictionary can be expanded and must be a read-write file. It does not have to be on the same disk as the other two control programs. The user can have many different dictionaries, and they may have any name the user wants to give them, although always using the last name ".DIC" has the obvious advantage of making the file name easily understandable.

(d) **MAINTAIN.COM** This program has two options. The first option, called VALIDATE, checks *SPELLGUARD* to determine whether the program is functioning properly. It can be used to make sure the program disk was not damaged during transit, or any other time the user thinks the copy of the program is not running properly.

The second option, called REVISE, provides a way to modify the original *SPELLGUARD* program using factory generated instructions. The REVISE option guides the user through the process of making modifications to the original program. It requires only a few typed instructions and no need to ship disks. No technical expertise beyond following simple instructions will be required to make updates.

The MAINTAIN.COM typically is not kept on the same disk as *SPELLGUARD* since it is not used during proofreading. MAINTAIN.COM is only used when modifications are required, or the user wishes to verify integrity of the reproductions of the *SPELLGUARD* programs. Chapter 4 discusses the MAINTAIN program in greater detail.

(e) **LETTER.TXT** This is a sample text file with misspelled words. You may want to use this as the first text file you proofread.

(f) **LARGE.DIC** This is a 20,000 word dictionary that can be used to proofread small text files following the instructions in the addendum sheet at the front of this manual.

APPENDIX C: GLOSSARY OF TERMS

Purpose of Section: This section defines terms used throughout this manual.

This manual uses ordinary words, and tries to minimize the number of obscure technical terms. However, a number of the innovative features in *SPELLGUARD* require the coining of new terms or the use of technical terms. If a reader wishes more information about a term than is contained in the definitions here, they should consult the index.

ASCII Code: This is a way of coding that assigns a unique number between 0 and 127 to each digit, upper case letter, lower case letter, special character, and a number of "non-printing" characters. With this convention, computers can recognize data produced by other computers and manufacturers can make terminals that will talk with any computer that also talks "ASCII." ASCII is an acronym which stands for "American Standard Code for Information Interchange."

Backup Copy: This is an extra copy that is kept on another floppy diskette. It is a good practice to always have extra copies of all computer programs. The user should keep extra copies of all *SPELLGUARD* programs and all dictionaries. Dictionaries should be copied at least weekly. These precautions will minimize possible loss of data in case a diskette is accidentaly destroyed.

CP/M: This stands for Command Program/Monitor, and this is a specialized program designed to do useful tasks such as copying diskettes, reading diskettes, running programs, etc. It was developed by Digital Research (see Trademark Page).

Default-Table: This is an advanced concept in interactive programming. It is a capability whereby the user can "pre-answer" questions which frequently receive the same answer in a routine dialog. Such pre-answered questions are not even asked when the program is run. This provides the capability for advanced users to prepare Default-Tables for beginning users and to prepare Default-Tables for themselves to speed dialog by saving typing.

Dialog: The instructions the computer types to the user, and the user's responses.

Dictionary File: A file with words in it that can be used as a dictionary by *SPELLGUARD*. This file must be in a special format, because *SPELLGUARD* applies complex computational methods to the special structure of the dictionary to proofread rapidly. See Appendix B for a description of the format of the first record of a dictionary.

Dictionary Management: A function of *SPELLGUARD*, whereby the user can combine, compare, list, and remove words from dictionaries. To get to it, one runs *SPELLGUARD* by typing SP and selects the option "R" from the Master Menu.

Dictionary Reorganization: This is a process that institutes an order in the dictionary that makes it possible to add words to the dictionary almost instantaneously during word review. Whenever about 250 words (the number of words is not exact, but depends on several factors) have been added, *SPELLGUARD* needs to take some time to reorganize the dictionary. *SPELLGUARD* uses no temporary files to do this and the reorganization time is about three times the length of time it takes to proofread a file.

Expert Mode: This refers to dialogue with the computer in which the computer messages are brief. See "mode of use."

File: A program or text on the disk. SP.COM and SP.DIC are both files. The first is a program, the second is data used during the proofreading process.

Intermediate Word Review: When the user is proofreading large documents (more than 10 pages) with a small system (32K), *SPELLGUARD* may need to perform a Word Review before it reads the entire document. After the user has finished this Word Review, the program will automatically return and finish reading the remainder of the document, and present the remaining mismatched words for review.

List of Actions: The user communicates with *SPELLGUARD* by selecting from among various courses of action. The list of actions (for example, the Master Menu) is sometimes called a menu of actions.

Mark Misspellings: Once the user and *SPELLGUARD* have identified incorrect words in a text file, the user faces the problem of locating and correcting the spelling and any required spacing (format) changes in the text file. To facilitate this operation, *SPELLGUARD* changes the last character of such words in the text file to a special character (e.g., @, #, or whatever the user chooses from the possible list of special characters).

Master Menu: This is the list of the things *SPELLGUARD* can do. When *SPELLGUARD* is run and no text file name is typed after SP (e.g., SP LETTER.TXT), the Master Menu is displayed and the user selects an action.

Menu: A list of things the user can do.

Mismatched Words: Words *SPELLGUARD* can not find in the dictionary it is using for proofreading. Mismatched words may be misspelled words or typographical errors.

Mode of Use: This refers to the length (verbosity) of messages typed by the computer in interactive dialogue with the user. In "expert" mode, the computer messages (prompts) are short and thereby the dialogue proceeds rapidly. In novice mode, the computer messages contain more complete explanations which the less experienced user requires in order to know what to do next. In the "good" old days when most users had only 10 characters per second terminals, the availability of an expert mode of interaction was essential for experienced users. With many users now employing CRT (visual display) screens of over 1000 characters per second, the expert mode is no longer needed as much. In *SPELLGUARD*, expert mode allows users to type one character of response to the next question that *SPELLGUARD* will ask while *SPELLGUARD* is processing the response to the previous question.

Novice Mode: The computer converses with the user by typing short messages. See mode of use.

Prompt: A prompt is the message that the computer types to alert the user that it expects some input. The prompt often describes the form of the input required in order to help the user to respond without having to consult the manual. In expert mode, the prompts are short. In novice mode, the prompts are longer and contain more detailed information about the response that the computer expects.

Reboot: Occurs when the user pushes the RESET key, or types ^C. All programs running will be forgotten and text being analyzed will be lost.

Regular Word Review: After SPELLGUARD has identified the mismatched words, the user reviews these words and decides whether the words are (1) correct and should be added to the dictionary, (2) incorrect and should be marked in the text file, or (3) to be ignored (neither marked nor added). This process of reviewing words one at a time is called regular word review. This term also applies to the menu of possible actions. See also Special Word Review.

REVISE: A special SPELLGUARD feature that allows non-technical users to make modifications to the original programs using special coded sheets from Osborne. See Chapter 4 for more information.

Serial Number: Each SPELLGUARD copy has a unique serial number. This number is displayed when the Master Menu is displayed for the first time. Use the serial number in all communication with Osborne.

Single Density: One way of storing data on a diskette.

Slot: Each of the questions asked in a Default-Table is called a "slot." See Chapter 3.1 for more information.

Software License: This is the agreement SPELLGUARD purchasers must sign in order to use the system. In many other areas, the developers of new products may protect their creations from the copying of others. This protection is afforded as an incentive for development of new creations. Common examples are copyrights on books or music and patents on physical devices or designs. However, the laws do not immediately apply to computer software, so the software vendors require the users to sign license agreements. Most of these agreements require the user to agree to use the software only on the system it was purchased for, not to resell the software and not to inadvertently let copies of the software fall into third party hands.

Special Marking Character: The character SPELLGUARD uses to mark misspelled words. The program replaces the last character of each word the user has indicated as incorrect with

this character. One popular character is "@" which is used in this manual. Most distributed versions of *SPELLGUARD* have the character "[" preset as the special marking character.

Special Word Review: This is an extension of regular word review (see above). These actions treat all mismatched words that have not yet been reviewed (called "remaining mismatched words") as a unit. Advanced users who are doing text analysis or building their own dictionaries are likely to use this feature.

Spelling Check: This is the main function in *SPELLGUARD*. The words in a user's file are compared against a dictionary to find the mismatches. These are potential spelling or typographical errors. These words can be added to the dictionary if they are ruled correct words by the user, can be marked in the text file by replacing the last character of the words by a special symbol (e.g., "@"), or can be ignored. See **regular word review** and **special word review**.

Text File: This is the user's computer file prepared with a word processor or text editor that contains letters or reports for which the spelling is to be checked.

Unique Words: A document may use the same word more than once. If the word "the" appears 100 times, it is only one unique word.

User: The person who sits at the keyboard and directs the computer during *SPELLGUARD*'s operation.

Verify: The portion of the *SPELLGUARD* program that can be used to determine whether the copy being used is functioning properly. See Chapter 4 for more information.

Word Review: This is the process of examining the words in the text file that did not appear in the dictionary and determining whether each is correct or incorrect. See **Regular Word Review** and **Special Word Review**.

APPENDIX D: INDEX